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PAPERS READ BEFORE THE SOCIETY, 1915-1916.

I.—THE MOMENT OF EXPERIENCE.

By H. WILDON CARR.

THE subject which I have chosen for my address is one which seems to me to raise the metaphysical problem in its clearest and most definite form. The moment of experience is the present moment, the moment in which what we are actually experiencing is contained, as distinguished from an abstract mathematical moment of time which has no content at all. Whatever we experience is now, and only what is now is immediate experience. But the word "now," as used in ordinary discourse, is vague. Anyone unexpectedly asked to say what length of clock-time he associates with his moment of experience would probably hesitate and be in doubt whether to assign to it three or four minutes or something less than a second. The moment of experience is not vague, however, when its content is considered; it is then sharply distinguished from all other moments. It is the moment during which experience is sense experience. It is the only moment the experience of which may be analysed by the psychologist as it occurs, and the experience which occurs in it is the only experience which exists as immediate experience.

It is in the moment of experience, therefore, that the mind and the world are immediately related. This moment has

duration, and yet all that occurs within it is present, nothing that occurs within it is past or future. It is altogether now, no part of it is then or when. The moment is also distinguished by the special character or quality of its content, sensation. This quality is unmistakable, but it is undefinable otherwise than by reference to the experience itself. Other moments contain remembered or imagined or inferred experience, in the present moment only is the experience actually felt.

These are familiar facts, and the problems they give rise to are familiar problems. There is the problem of the relation of psychological to mathematical time, or, as some prefer to state it, the problem of the distinction of mental time from physical time. Also, there is the problem of the ultimate nature of sensation and its relation to other forms or modes of knowledge. These are problems of psychology as well as problems of philosophy, but while psychology is concerned to make clear the distinctions they involve in order to free its subject-matter from confusion (the psychological interest being the definition of terms and classification of empirical facts), for philosophy the problems are vital, they go to the very root of the question of the ultimate nature and relation of knowledge and reality.

It is the philosophical importance of these problems, and not their mere dialectical interest, which I am now concerned to present to you. It is because I feel that the whole possibility of a consistent theory of life and knowledge depends on the power of philosophy to solve these problems, and because the metaphysical solution seems to me clearly indicated in the very nature of the contradictions which give rise to the problems, that I have been drawn to this study, the main object of which is to make explicit what seem the implications in the concept of a moment of experience.

I will begin with a particular problem on the common-sense plane, a psychological problem which involves no principle of philosophy at all.

I. *The Sensation of Movement.*

When we see a shooting star we have the visual sensation of a luminous line drawn across a more or less extensive region of sky. It endures a very short though appreciable time, and, although it seems to begin to disappear at the point at which it began to appear, there is a certain time during which the whole line is simultaneously present to our consciousness, otherwise it would not be experienced as a line. It appears to us, when we describe it, as though a star previously fixed in the firmament, or having suddenly come into view, had moved across the sky, leaving a trail of light behind it, and that when it had reached the end of its journey and before it had disappeared the whole trail was present to sense. We believe that this is an illusion of the senses: that is to say, that what appears to sense does not actually exist, and that it is explained by the faculty the senses have of retaining or remembering the excitation of them. We believe, on what we accept as scientific evidence, that when the trail is present to consciousness, nothing in the physical world is stimulating the sense organs; in fact, that the trail of which we are conscious has no physical reality corresponding to it. We believe that the physical reality is a point of light, not a line of light, and that whether the movement of that point is due to its own translation or to the translation of its observer consequent on the earth's movement through space, or to both, the point always was in only one position at one instant and not simultaneously at every position in the line. Were, then, our sensation of the falling star strictly limited and rigorously correspondent to the actual conditions of the physical cause, we should never be able to have the ordinary experience of it. Were our consciousness to begin and cease when the physical occasion begins and ceases, there could be no duration in the psychological meaning of the term, no continuity of the past, no carrying on of the past into the present. Consciousness would be of the present

moment and the present moment would be a point without duration.

Assuming the occasion of the sensation to be as science teaches, we have to explain the illusion in the sensible appearance. I can think of only three ways in which a psychologist might suggest an explanation. First, he might suppose that it is due to the mechanism of sensation and that this includes some sort of contrivance such as the photographer's sensitive plate, but not necessarily material—something like what the older psychologists imagined when they called the mind a *tabula rasa*. Our sensations would be of the impressions made upon it, and these being a mechanical effect would not be restricted to the actual duration of their cause. What we sense would be the marks or impressions left, not the actual cause of them, and these impressions might exist after the cause had ceased to exist. Secondly, he might suppose that the line of light is not a pure sensation but a combination of sensation and memory, that, in fact, it is only the point and not the line which is sensed, and that the line is really our recollections of the sensations of the point when it was on the preceding positions along the line. Or, thirdly, he might suppose, and this is, I imagine, the usual explanation adopted in the text-books, that the mind has a faculty or power of retaining sensations for a short but appreciable time after the excitation has ceased, and hence excitations which physically are a true succession, one past before the next is, may coalesce or overlap in sensation. Some sensations may be simultaneous, at least as to parts of them, although their excitations are not.

I think all three explanations are wrong. What renders them, in my opinion, one and all futile is the assumption which underlies each, that the experience of movement or change is not itself a simple sensation, a single sense-datum, but something which can only be explained as a relation of numerically distinct sensations, or at least of numerically distinct sense-data within a sensation. All sensation, in my view, is of

change. Movement or change is immediately given to us in sense experience. The change from A to B is not experienced as two sensations, one of which is "first A" and the other "then B"; "first A" is not only present when "then B" is future, and "then B" is not only present when "first A" is past, but both are present in an indivisible sensation, and the distinction is an after-result of reflection and intellectual discrimination. Before I try to formulate and defend this thesis, I will give a specific reason for rejecting each of the three explanations I have indicated.

The first explanation—that we truly sense the line, although there is no line in reality, because the line forms part of the picture of reality present to the mind—is a theory which appeals to common sense on account of a somewhat striking analogy. A moving point, such as we suppose the shooting star to be, appears as a continuous line on a photograph. This seems to suggest that the retina may perform the same function as the ground glass plate of a camera. The analogy is very striking when we consider the structure of the special sense organs, particularly those of sight and hearing, and the functions of their various parts. A photographic camera is a simple replica of the mechanical apparatus of the eye, by which rays of light from the external scene are condensed by the lens to form a small image on the sensitive retina. In like manner the waves of sound are condensed into vibrations of the small tense membrane which forms the drum of the ear, a mechanism imitated in the receiver and transmitter of the telephone. If the formation of an image of the external scene is a necessary condition of the perception of the external object, and if it is this image which is the object of the sensation, then it seems natural to account for the difference between the inferred cause of the sensation and the sensation by the conditions of the formation of the image. A moving point in the external scene might be supposed to form a line in the image, as in fact does happen when we photograph a changing scene. Is there such an

image intermediating between the external reality and the mind? Psychologically there is no ground for supposing it and no advantage in supposing it so far as theory of knowledge is concerned.

The problem of knowledge is not simplified by supposing the object of knowledge to be a picture of reality projected on a sense organ rather than the external reality itself. Philosophically it would complicate the problem of real existence by substituting a representative for a presentative theory. The only ground for supposing that the object of visual sensation is an image of reality and not the reality is the fact that theoretically we can obtain an image behind the lens of the eye and also that if we look into the eye of another we can see reflected back to us the image there formed. But because an image always exists theoretically and because it can be reflected back to another it does not follow that it is, or could possibly be, an object to the mind itself. Not only is the image we may see in the eye of another person never the image that other person sees, but there is no reason in the fact that we see it to lead us to suppose that the mind must be conscious of an appearance of reality distinct from reality itself. We may, therefore, reject the view that a picture of external reality is the immediate sensed object and that this picture may have characters the original has not.

The second explanation is that the line is not really sensed at all, but that only a point in the line is sensed, that the moment the point has moved its position the sensation produced at that spot has ceased and a memory-image has replaced it. It may then be supposed that quite recent memory-images are as vivid as sensations, or so nearly so as to be indistinguishable from them. Hence the line is supposed to be simply a fusion of quite recent memory-images with the actual sensation. Such a view will not stand any psychological test. By every criterion of sensation the line is sensed not memorized. I can control a memory-image. I can call it to mind, keep it in mind, let it pass out of mind. I have no control over a sensation, I am

dependent for it on the actual stimulus of a sense organ. Judged by this criterion the line is a true sensation; there is no such difference between one point and another as there is between sensation and memory, but the memory-image of the line when I remember it is entirely different in the nature of my experience from the line when I sense it. Were part of the line a memory I ought to be able to keep it and prolong it indefinitely, or at least to keep it in mind until fatigue should overcome me. I cannot do this. There is, moreover, no difference of quality within the line; it is only the duration of the experience which enables me to imagine the possibility of a difference. The mark of sensation is to be actually present experience in the meaning that there is present modification of the organism. As any sensation which endures has a beginning and end, it seems possible to deny that the beginning is still sensation when the end is reached, because it is then past not present. Such an argument would defeat itself by depriving sensation of all content whatever. The sensation would be merely a point marking the limit of memory.

The third explanation I can best illustrate by a quotation from Herbert Spencer's *Principles of Psychology* (II, 186). "It is a familiar fact that all impressions on the senses, and visual ones among the number, continue for a certain brief period after they are made. Hence when the retinal elements forming the series A to Z (different sensitive points on the retina) are excited in rapid succession, the excitation of Z commences before that of A has ceased, and for a moment the whole series from A to Z remains in a state of excitement together." The quotation is from an argument to prove that the notion of space may arise out of the notion of simultaneity, and that simultaneity may be the direct sense experience of a rapid succession. It is very apposite to our case in point, and illustrates exceedingly well the problem of the perception of change. It seems self-evident that if sensation be actually present experience we must exclude from it whatever is past, and yet if nothing within the sensation

be past how can it have duration? Hence the attempt to account for the direct consciousness of change by supposing that sense impressions last longer than the stimuli which excite them, so that a rapid series of stimuli are a true succession, each over before the next is, while the sense impressions they cause overlap and are experienced as simultaneous. (To avoid misunderstanding, it should be remarked that this lasting or enduring of the sensation beyond the duration of the stimulus is not what is ordinarily intended by the term retention or retentiveness in psychology. Retentiveness as employed in psychology is the presupposition of our power of remembering a past sensation, not the power to prolong a sensation in present experience.) What then is the reason for rejecting the view that the sensation of the line is due to the retention of the sensations of the points so that some have not ceased when others have commenced? How far it may be physiologically true that the experience of simultaneous visual points, such as the series of points in a luminous line, is due to an excitation of numerically distinct points on the retina I do not know, but that successive excitations of different points overlap seems to me to bring us up against formidable difficulties. In the first place it supposes the retina immobile, but, as we know, the eye moves, and therefore, if the eye follows the moving point, one point of the retina will be alone continuously excited, and in this case it would seem we ought not to see a line but an increasingly brilliant point. And in the second place, what is still more important, were it proved true of one sensation that in one respect, viz., duration, it does not correspond to its excitation, what ground should we have to argue that it corresponds in any respect?

In my view the explanation of the appearance is not physical nor physiological but psychological. We are conscious of a rapidly moving luminous point as a line of light, not because all or some of the points in the successive series excite sensations which overlap the other points in the series, but

because the whole series is within the moment of experience and therefore a present sensation. The moment of experience is limited in duration and limited in discrimination, but within the moment every point of a series, whether it be within or beyond the limit of discrimination, is present to sense, whatever be its relation of before and after to the other points of the series. A point or instant is not past because it is before another which is present, nor is it only present when the preceding member of the series is not present. It is present while it remains within the moment of experience and so long as it is present it is not even fading away. The moment of experience has within it no distinction of past and present, but it has within it the distinction of before and after. The limit of its duration is where memory takes the place of sensation, the limit of its discrimination is where before is indistinguishable from after. Within the moment, whether the interval separating two points in a succession is discerned or not, each point is present and sensed, no point is remembered or imagined.

So far I have not touched on philosophical difficulties, I have tried to think how psychologists might deal with a purely psychological problem without raising questions of the validity of knowledge. Before I leave the psychological consideration I will try and indicate exactly in what the difficulty lies and what to me seems the way of escape. A sensation is only, wholly, and always present. The object of a sensation, the sense-datum, has for its essential mark that it is given at the present time. Yet though it is present it seems that it must have within it what is not present but past. A movement or change may be a sense-datum, for we know movement or change as present fact, and not as inference from present fact. A sensation whose sense-datum is a movement must have duration, what has duration must begin and end, beginning and ending cannot be simultaneous, one is before, one is after, the other. But, as we have seen, a sensation is

altogether and entirely present, therefore the beginning and ending, the before and after, within the sense-datum must be together and simultaneous. There is here undoubtedly a metaphysical problem which I will state directly, but it need not disturb the psychologist. In the sensation of the shooting star the line of light is not an illusion, the sense-datum is a movement, and a movement can only be present in a sensation as a line, for it is indivisibly and wholly present. To suppose that the sensation of movement is not really one sensation, but an infinite series of sensations, in each of which a different point of space is sensed at a different instant of time is not only a psychological impossibility but a denial that movement is a sense-datum at all.

II. *The Specious Present.*

I will now leave the consideration of the particular case of the sensation of a shooting star and take up the general problem, of which I have cited it as an illustration. This is the problem of the relation of the momentary "now" of psychical experience, in which temporal distinctions are included, to the momentary "now" of physical events from which temporal distinctions are excluded.

Consciousness is the experience of a present actual now this now is momentary, and the succession of these moments is a time series. Also the object, the reality of which we are aware in consciousness, is a succession of events, each of which has its moment of present existence and the succession of these moments is a time series. But there is a difference between the moments of consciousness and the moments of physical events. The difference is in what we name duration. The moments of consciousness endure. The now of experience is not a point or division between what is past and what is future in the time series, but a time span with definite content. It holds within it what in the physical series may be already past or even not yet. This present actual moment of experience

has been called a specious present to distinguish it from a mathematical present. The term was introduced into general psychology by William James. A specious present is a reality of psychical nature with no counterpart in the physical universe, and whenever we represent it as existing physically we find that we are in fact introducing into nature what has meaning only in consciousness.

The specious present or moment of experience is the moment in each conscious subject's experience which while it endures he calls now, and within which are his sensations. It is the grasp or apprehension of a reality ceaselessly flowing away and ceaselessly being renewed. It is not a moving point, it resembles rather a field of vision with fixed limits, across which a panorama moves. The quality of the moment is to be wholly now. It is distinct from past moments which were once now, and from future moments which will be now. We feel to this present moment that it alone is and that all that really exists is in some way in that moment, while all past moments are known as a memory of what was and all future moments as an imagination of what will be. Yet this "specious present" is not a boundary line between past moments and future moments, it is itself an actual duration, and therefore has difference within it, as well as being itself different from what is excluded from it. The distinctions within it are of two kinds, which by a natural analogy we think of under the forms of time and space. The duration of the moment involves a time distinction within it. The extension of the moment, that is to say, the diversity of its content, the fact that all the different senses present objects to the mind in one and the same moment, and the fact that the mind in attention can select one or another, can wander over a practically unlimited field, can turn aside from sense to memory and imagination, all within the moment of experience, involves a distinction which can only be presented as spatial. Mental activity in all its wide range falls within the specious present.

It is very important, at this point, to be on our guard against a loose meaning of the phrase, the specious present. In ordinary converse we speak of long and indefinite periods as present, whenever these periods form part of the unity which the action in progress supposes, or when they embrace the whole set of conditions of a present activity. Thus we speak of the present war, the present conversation, the book we are at present reading, or we may include vast periods of time in the present as when we speak of the present age, the present geological period, or the present condition of the solar system as compared with its supposed condition in a nebula. This, of course, is not for our consciousness the specious present. Yet this application of the term present has an important bearing on its notion, for our very power to think these vast periods as present depends on our power to imagine a mind for which they would be a moment of experience. In effect we imagine the present moment in which feeling and sensation are immediate so extended as to embrace these long periods. And also our imagination serves us in the opposite direction. We can suppose our specious present contracted to embrace an infinitely small portion of its content, so that the other portions should be excluded from it and relegated to a past or a future as vast as the periods to which we have just imagined it extended. Just as in the words of the Psalmist, "A thousand years in Thy sight are but as yesterday when it is past and as a watch in the night," so also is it equally true that yesterday may be as a thousand years. We cannot mean, then, by the specious present some definite quantity of abstract moments, for there are none; we must mean some constant ratio of conscious apprehension to the variable moments which form its content.

Let us suppose that we are looking through a microscope, and let us suppose also that our (theoretically perfect) instrument has an adjustable objective, so that any object under observation may be indefinitely magnified. The field of vision

will not vary, but will remain constant both in duration and extension whatever is within it, but less or more of the object will come within the field as the magnification is increased or diminished. That is to say, whether in relation to unassisted vision the magnification be 50 or 500 diameters, the field is the same, the time required to attend to anything within it is the same, the number of parts or divisions in it is the same; all these are constant and what is variable is the quantity of the object which will come within the field. This constant field of vision, irrespective of the varying quantity of the object observed, illustrates the nature of the specious present. But we may get a better illustration still. A microscope effects only a visual magnification and the difference between an object seen under the microscope and the same object as it exists for unassisted vision is experienced as a discrepancy between sight and touch. Imagine then that some instrument could be contrived which would effect an exactly corresponding increase or decrease in the discrimination of all the senses to that which the microscope effects in the case of vision. Suppose that such an instrument were not limited as the microscope is to magnifying the object so that less of it occupies the field but could also diminish the object so that more of it would occupy the field, and suppose that with every alteration of visual magnitude there were an accompanying corresponding alteration in the tactual, auditory and other senses and, with every alteration a constant field. Such a field in which all the senses would be co-ordinated is a fairly exact analogy of the specious present. If we had such an instrument it would enable us to pass from our system of reference to any other we might choose and to preserve our identity through every change. By making a larger or smaller quantity of the object of our present experience occupy the constant specious present of consciousness and by adapting all our senses to the alteration, it would be as if we ourselves became proportionately larger or smaller in relation to our normal world.

The moment of experience, or the specious present (the two

terms are for me synonymous), is then the span of consciousness throughout which the reality known is immediately present as sense experience and within which the activity of the mind in sensation, memory and imagination is in being. Theoretically there is no limit to what may occupy this moment, but the moment is itself constant and not variable, however variable in extension and intension its content. This content, however, though theoretically unlimited, is practically defined in its range by our organisation, and by the mode of our activity, to a certain system of reference. Thus my whole life from my birth might conceivably be the content of one moment of experience, that is to say, it might be entirely present to me not as memory but as immediate experience. This would not imply the enlargement of the moment of experience but a variation of the system of reference. This at least is the view I hold. Against it may be urged the undeniable fact that we are able to and actually do measure this moment of experience by a purely objective standard. A certain definite period of our clock time enters it, and neither less nor more. My reply is that such measurement does not determine the moment of experience, but the system of reference within which and in relation to which the consciousness is functioning.

III. *The Relation of Psychological Duration to Mathematical Time.*

Whether the view of the moment of experience which I have just given, that it is constant while its content is variable,—not in the sense that it is a series or succession of ever new experience, but in the profounder sense that all its objective characters, including space and time, are variable, and relative to a system of reference,—be accepted; or whether the ordinary conception of an absolute space and time and a variable moment of experience be held; in either case the concept of a moment of experience gives rise to fundamental problems of philosophy. These problems fall naturally under

two heads, one formal, the other material. One is the problem involved in the duration of the moment of experience, the other in the nature of its content, *i.e.*, of sense-data. The first problem is the relation of psychological duration to mathematical time, the second is the problem of the status of a sense-datum.

It is evident to everyone who reflects that the moment of experience is not the mathematical instant which divides the past from the future. It is quite obvious that while the mathematical instant may fall within the moment of experience, the latter cannot fall within the former. The reason is clear. The mathematical instant is a point, the moment of experience is a line, the first has no dimension, the second has one dimension. If mathematical time be represented as a series of instants, one of which is present and the others of which are past, then the moment of experience holds within it some instants which in the mathematical series are past, and these in the psychological series are still present. This I think no one disputes. But the mathematical instant is also the limit of a series or succession of instants which are future. Do any of these future instants fall within the moment of experience, so that some instants which in the mathematical series are future, in the psychological series are present? Or, is the present mathematical instant the limit of the series of instants which falls within the moment of experience, so that in respect of all future instants the mathematical and psychological series correspond in a present point common to both? This latter alternative seems to be the opinion of Mr. Russell. He says: "The 'specious present' is the stretch of time from the present instant back through the various moments when present objects of sense ceased to exist." "It involves," he goes on to say, "mathematical time as well as psychological presence."* This seems definitely to exclude mathematical future time. What is the ground for this, and is it true?

* Article in *Monist*, April, 1915.

So far as the concept of mathematical time is concerned the future is on the same plane as the past. So far, that is to say, as we consider physical events determined by a time order, forming a series standing to one another in a relation of before and after, there is no difference in our concept of time future and our concept of time past. If we suppose that some J. J. Thomson of the supra-world, for whom our sun was an atom, were to cause the earth to fly out of the solar system like an α -particle, it would upset all our astronomical predictions no doubt, but it would not affect our concept of time future. If, then, the moment of experience overflow the mathematical instant, there is no *a priori* reason why it should be only over the series behind us and not also over the series before us. Yet it seems difficult, and even in a certain sense paradoxical, to suppose that the present moment of experience can embrace instants mathematically future, as well as instants mathematically past. Why? I think it is due to an assumption. We naturally and unconsciously assume that the mathematical instant is original and independent of experience, and that the moment of experience is the comparative failure of consciousness to grasp or apprehend this reality in its purity. The moment of experience is then the more or less successful attempt to get a sharp focus of a reality which itself possesses ideal precision. On such an assumption there are two very strong reasons for holding that the moment of experience is the stretch of time from the present mathematical instant back through a certain series of past mathematical instants and never forward into the future. The first reason is the law of parsimony. If the mathematical instant is what consciousness is striving to grasp, everything which can be excluded from it will be. In other words experience will strive to make its moment coincide with the mathematical instant, and so far from darting in front of it will lag behind it as little as possible. The other reason is that the past mathematical instants, having already been experienced, can be retained in

the present, whereas future instants, not having occurred, cannot be retained.

It seems to me that to assume the independence and originality of the mathematical instant is without any justification. Also it leads to a kind of absurdity, for if the mathematical instant be real then the real has no duration, and the experience of duration is illusion. There can be no ground for such an assumption, just because experience is itself the highest court of appeal. On the other hand, to hold that the moment of experience is original and absolute is not an assumption, because experience is itself the ground of all implications, inferences, and assumptions whatever. The mathematical instant is not an absolute reality, because in the first place it is abstract, not concrete, and in the second place it is part of an intellectual scheme. This scheme is a device by which we represent reality. If reality be activity we can only present it to the mind as a continuity of change, and this must appear as a division between what is formed, or acted, or made, and what is forming, or acting, or making, and the moving centre of the activity will be represented in thought as a point or limit dividing past and future. The point will be the ideal abstract centre of the activity, and the moment of experience will be the concrete concept of the activity, and will therefore of necessity hold within it something which in the abstract is past, in the sense that it is before the abstract centre, and something which in the abstract is future, in the sense that it comes after the abstract centre. But only in the abstract meaning of mathematics will past and future be distinguishable parts of the moment, and, as so distinguished, past, present, and future are unreal abstractions synthesised in the concrete concept.

We are not, however, entirely dependent on analysis of the concept of present activity to prove that mathematical instants abstractly future form part of the moment of experience. There are actual facts of experience which are difficult to

explain if it be not so. In the case of all expressive action—gesture, speech, writing, etc.—the whole meaning to be expressed is intuitively present in every moment of the expression as it proceeds. Were it otherwise we should be in the impossible position of striving to express what did not exist to be expressed. A musical melody, a proposition, a sentence, even an exclamation, will occur to everyone as cases in point. If, then, expression imply intuition (I am not using the word intuition here in a technical sense), it is impossible to schematise the moments of the expression unless they can advance beyond the mathematical present instant. For example, can I suppose that when I am pronouncing the word “London,” the second syllable is not within the specious present until I have completed the pronunciation of the first, although the first is admittedly within the present when I am pronouncing the second? I may refer also to the very careful psychological analysis which has been made of the act of reading, which seems to bring out the fact quite convincingly that mental apprehension is always ahead of the actually sensed word.

There is also another familiar experience which appears to me to throw considerable light on the nature of the duration of the moment. Everyone has probably at some time had the experience of being awakened from sleep by some sense-excitation, such as a knock at the chamber door, a word spoken into the ear, or a touch on some part of the body, and experiencing this sense-excitation as the conclusion of a long, intricate and complex dream. Unless we are to suppose in such cases a miracle of coincidence, we know for certain that the sense-stimulus was the occasion of the dream of which it seemed to form the natural climax. Does not this show that a long-enduring psychical experience can take place during what in normal waking life we call a moment, and also that this duration can appear to the mind as preceding the event which we afterwards know has occasioned it? The least such facts show is

that we can have no more ground for excluding future instants from the moment of experience than we have for excluding past.

I will now try and present the problem of the duration of the moment of experience in complete dialectical form. The concept of duration has formal diversity or difference within it. This difference consists of two elements, past and future, each of which in the abstract and apart from the unity of the whole concept is a pure negation. The past is not, the future is not, and all that is not past is future, and all that is not future is past, there is no present. The concrete concept in which these contradictory elements are synthesised is the moment of experience. The formal problem therefore may be solved in the manner of the Hegelian logic. We have a dialectical triad exactly fulfilling the conditions of Hegel's first concrete category, in which becoming is the synthesis of being and nothing. Let us give it the full Hegelian form. The thesis is the duration we affirm to be present. The antithesis is the past and future of which all duration entirely consists, and both are opposite and contradictory to the idea of present. The synthesis is experience, every moment of which holds together the abstract contradictions of thesis and antithesis in a concept which is concrete, universal and real. But this is only a first degree of reality. The moment of experience implies more than bare union of the abstract contradictions, past and future, in a duration span. It implies a higher concept, that is the concept of a higher degree of reality, in which past and future are not independent elements, held together by the external relation of the apprehending consciousness. This higher degree of reality we find in the concept of activity. The moment of experience is the moment of conscious activity. In the concept of activity, past, present and future are a systematic unity, essential elements of an organic whole. The elements are organically present in the whole, that is, the past is not merely past, it is contained in the present, and the future is not merely future, it is being fashioned in the present. Past and future are therefore

in the concept of activity no longer abstract contradictions, but essential to the unity of the concept. Before I attempt to point out the further implications of the concept of activity I will consider the second problem I indicated; that which concerns the quality or matter of the moment of experience. as distinct from its quantity or form.

IV. *The Quality of Experience in the Moment of Experience.*

The moment of experience is one of a series of moments. We distinguish it from the past-moment we remember and from the future moments we imagine. So viewed, it appears to us to endure so short a time that we find it practically impossible to realise that it is, before it has already passed into the series of moments which can only be remembered. Yet the fact is that as experience the moment is continuous, it is only from the standpoint of its content that it is for ever ceasing and for ever being renewed. The objective mark of the moment of experience is therefore the special nature of the content. It is only in the moment of experience we have the kind of knowledge we call sensation. Every one recognises it and knows that it is different from every other kind of knowledge whatever. All knowledge is for the subject of experience within the moment of experience, even the kinds of knowledge we call memory and imagination, but the objects to which memory and imagination or fantasy refer are not within the moment of experience as the objects of sensation are. The object present to the mind in sensation is therefore named by some philosophers the sense-datum, and the moment of experience is defined by them as that portion of time during which the objects of knowledge are sense-data. Let me quote Mr. Russell's "definition" of the "specious present" in the article to which I referred above. "The 'specious present' of a momentary total experience is the period of time within which an object must lie in order to be a sense-datum in that experience."

The problem then is this: Are sense-data objects in their

own right, objects which stand to the mind in a relation of direct acquaintance, and is it these objects which give to the moment of experience its privilege? Or, is it the nature of conscious activity, the nature of the mental grasp or apprehension of reality, in a word, the nature of life, which gives to the moment of experience its special character of unmediated reality? According to one view sense-data are certain definite objects which at a certain moment are or may be present to a mind, and the moment we call now, or the specious present, is distinguished from other moments before and after, by the fact that it is the only moment in which sense-data are so present. We need not object that the moments are described in spatial terms, there is no other way of expressing the meaning, for in this view sense-data are not events which occur, but objects which appear. The opposite view is that sense-data have no independent status: they cannot be treated as a class of entities separable or distinguishable from the moment of experience as its contents.

Let us be clear, too, as to what the problem is not. It is not the question of the real existence of physical objects, nor is it the question of the validity of the inference from phenomena to a cause of phenomena. It is not, that is to say, the question of the independent existence of the objects or material things which physical science is supposed to assume, nor is it the question whether the fact of sensations involves the concept of an independent cause of sensations. Sensation so far as we are concerned is ultimate fact, it supposes a sensing mind and a sensed object, these are part of its notion but it does not necessarily suppose that either mind or object are anything at all outside or independent of the sensation.

The distinction of the mind from its objects is, however, held by many philosophers to imply and even to establish an essential and fundamental difference between two classes of entities, the mental and the non-mental. It is a widely accepted principle and is often treated as a kind of postulate or

axiom of philosophy laying down the conditions on which subsequent analysis must proceed. I do not accept it. I do not regard the distinction mental and non-mental as an ultimate distinction nor indeed as a true philosophical distinction at all. It is a convenient and necessary distinction in physical science and in psychology but it has no place in a metaphysical theory. To admit it as a fundamental distinction of philosophy or to be satisfied with it as a final result of philosophical analysis seems to me equivalent to declaring the impossibility of a metaphysic of experience. The argument on which this doctrine from which I dissent is grounded, as I understand it, is as follows. Knowledge is a relation. The knowing relation implies subject knowing and object known. Therefore in the very affirmation of knowledge is involved a distinction of act and content; on the one hand we have the act of sensing, perceiving or conceiving, on the other that which is sensed, perceived or conceived. The sensing, perceiving and conceiving are then classed together and named mental, and the sense-datum, the percept and the concept are classed together and named non-mental. It is then argued that the mental class might be supposed absent from or removed from the world altogether, which would still be a world—at least, the non-mental class would subsist unaffected as regards reality, though, in the absence of knowing relations, unknown. This appears to me to be the argument on which most modern realist theories repose. The non-mental is named physical and what Berkeley called the perceptions of the mind are now declared to be the physical elements out of which the universe is constructed, and we are left wondering why the new realisms are so like the old idealisms. I do not know that anyone has yet argued the converse, though it would seem to follow, namely, that the non-mental class might be supposed absent or removed from the world, leaving the mental class subsisting unaffected, a world of acts of knowing with nothing to be known. I dissent from the view altogether. For me the fundamental distinction implied

in knowledge is the distinction between life and consciousness. The ultimate concept of reality in my view is the concept of life." If this can be established no one can then deny that a metaphysic of experience may be possible, for in the moment of experience, life and consciousness are one.

Let us then consider the quality of the moment of experience, sensation. If we analyse sensation into act of sensing, sense-datum, and relation of acquaintance; or, into subject-mind, object-datum, and knowing-relation; or, in any way which enables us to treat the sense-datum as constant and the relation as variable, we have a psychological difficulty which it is impossible to ignore. This is that the variety and multiplicity of sense-data, and their quality or character in the moment of experience, are not due only to the variety, multiplicity, and character of the sense-excitations, and the multiplicity is not only due to the amount of clock-time the moment covers; there is a qualitative and quantitative difference in sensations themselves depending on the nature, organisation, situation, and special function of the sense organs. To the ordinary view this offers no difficulty, but on the other hand serves to explain many facts. We classify sensations by their source in the different sense-organs before we classify them by what we may call their apport. But the apport is everything, is fixed and absolute, if the sense-datum is constant, and independent of the act of sensing.

There is a still greater difficulty for the view that sense-data are constant, in the fact of attention. The mind can be attentive or inattentive to its sensations in any degree. I may listen to what someone is saying, my eyes the while fixed on his gesture and action, and be wholly inattentive to what I am seeing and attentive only to what I am hearing, or wholly inattentive to what I am hearing while attentive to what I am seeing, or I may be actively attentive to both at once. In fact I can turn my attention off and on, I can concentrate it on one minute sensation or expand it to take in the whole

range of my senses at once, and all within the moment of experience. How am I to express all this if I take the standpoint of objective sense-data to which the relation of the mind is acquaintance? A sense-datum can admit no difference of degree, nor yet can the relation of acquaintance. But attention introduces an infinity of degrees in my actual sense-data. The difference between attention and inattention will, on the view I am considering, have to be explained away as an illusion or subjective appearance, for the difference apparently due to attention must be an actual difference of sense-data themselves.

This leads me to my chief criticism of the sense-data theory, I mean the theory that a sense-datum is constant. If we adopt it we cannot possibly explain the perception of change, and we must suppose that what we perceive and call change is not what we conceive change to be but an illusion produced in us by the succession of sense-data. What we suppose to be change must really be the simultaneous sensing of sense-data which are themselves successive. And there is another fact which we cannot explain on this theory, the special privilege which attaches to the moment of experience. This moment stands out in our lives not only as possessing special and overwhelming importance to ourselves because in it we are acquainted with the objects which out of that relation we can only describe, but because into that moment is crowded the whole of reality. Outside that moment there is only what did exist or will exist, nothing that does exist.

These two facts, that in the moment of experience we perceive change, and that into this moment of experience in some way not only our own reality as minds knowing but the reality of things known is gathered, demand of human thought that it should seek to discover their metaphysical ground. They present to us a problem which can only be solved by the method of philosophy. This method is the analysis of the concept to discover its implications, then to follow those

implications into the system which gives us their reality in a higher degree.

We have seen that in the concept of activity the contradictions to which the duration of a present moment give rise are overcome in a systematic unity. Activity implies that past and future are together in organised union in the present. The moment of experience is the moment of activity. The concept of activity implies change. Change is not mere succession, the alternation of existence and non-existence, it is becoming, the becoming actual of what was potential. Change implies continuity. The new creation which constitutes it is the new form or order which the old undergoes. "The old order changeth, giving place to the new." Where there is real change, existence and non-existence have no place as categories of reality. The categories of change are making, acting, doing, opposed to which are made, acted, done. If reality be change, reality cannot cease to be, cannot give place to nought. The absolute expression of it is "making itself." Past and future are therefore no longer the distinction of what is not from what is.

We have an illustration, we might even say an exact application, of this metaphysical doctrine in the scientific concept of energy. Energy is in modern scientific theory the ultimate concept of reality, and the law of its conservation is not a description of facts nor is it the formulation of a probability based on the observation of invariable sequence. So far as empirical facts are concerned, they are diverse, disconnected, independent of one another. We can classify them more or less conveniently; group them into the phenomena of light, heat, electricity, magnetism, etc.; we can even, by observing sequences, predict them with more or less confidence; but all that experience warrants us in saying is that they are or that they are not. Physical science has replaced this idea of existence and non-existence with the concept of a reality which cannot not-exist, and which

preserves its identity throughout complete change of its form or order. When energy completes its cycle of change it does not cease to exist, it passes from the kinetic to the latent order. It may be said that this concept of conservation is not a fact but only a convenient generalisation. It is a generalisation, however, implied in the very possibility of physical science, and which cannot be even called in doubt without destroying the basis of scientific explanation.

Strict empiricism would in fact as effectually destroy physical science as it destroys philosophy. Observation of fact which abjures implication is sterile. So in philosophy, if we be content to conceive reality as a panorama or moving procession and the mind as a spectator contemplating the passing show, then the moment of experience has no intrinsic privilege; its apparent privilege is due to the fact that it happens to be the moment at which we are spectators, and our sense-data are what happens to be offered to us at that moment. But conceive reality as change and one moment is at once raised to the privilege of actuality with respect to every other moment.

The concept of change appears to me, therefore, to be of capital importance in philosophy. If change be original, that is to say, if change be the necessary logical antecedent of things, and if fixity in every form be the work of the mind, and if it be this original change which we perceive in the moment of experience, then both the nature and the form of that moment are made manifest. The moment of experience is the moment of activity, activity is the moment of change, change is the continuity of the past in present creation. Change is not succession but self-making. The apprehension of change in a moment of consciousness implies therefore the holding together in that moment past and present, and past as present, an activity of self-making or creation. This is the concept of life.

And this is the highest concept we can reach, for in the concept of life we grasp intellectually the reality we know intuitively. In the moment of experience we live as well as

know, and we know in living the very reality we objectify in knowing. The whole process of living thought, as distinct from the life itself, is the making explicit, the expressing in the concept what is implicit in the intuition. But as intuition life is all-inclusive, whereas the moment of experience is essentially exclusive. It is an infinitesimal fraction even of our individual life, whatever be its relation to universal life. The moment of experience is the concentration of consciousness on a small and quite disproportionate part of the full reality of the individual life of the conscious experient. What is the principle of this concentration of consciousness on a fraction of the whole, or of this contraction of all reality into a moment? The moment of experience is, in an expressive phrase we owe to M. Bergson, the moment of "attention to life."

(The moment of experience is for us a moment of consciousness. When we speak of our conscious moments we distinguish consciousness from life, and consciousness then appears to us as a form of vital activity, a phenomenon which supervenes on life itself. The moment of consciousness is not a moment of life, that is to say, life is not a multiplicity of moments or composed of momentary elements, some conscious, some not. An infinitely small portion of the individual life comes within { the moment of consciousness when compared with the duration of memory and the extension of sense perception. In the activity of attention consciousness moves over a wide range of past and present, lighting up in its brief duration some selection from the memories of past experience, some selection from present sense experience. Life is itself infinitely wider than consciousness, and the moment of consciousness is not the moment of life but the momentary consciousness of life.

If then we recognise that consciousness has supervened on life, and ask ourselves what is its nature and its relation to vital activity, two views are possible. We may suppose that consciousness is just awareness, and that the life which has acquired it has thereby endowed itself with a power of

contemplating and representing itself and its environment. In that case the momentary character of consciousness will be altogether mysterious, a fact to be accepted but impossible to understand. On the other hand, we may see in its momentary character its true significance. Consciousness is momentary because it arises at the call of a certain kind of activity. It is as it were a light shed on the focus or centre of activity to serve the action going forward. The terms we have to employ—light, focus, centre, etc., are of necessity metaphorical. Consciousness is the unique experience we know as awareness. There is nothing contradictory in supposing that our whole life with its continuous past, its full present, and its prospective range and activity might be through and through conscious, an awareness not concentrated into a moment, but such consciousness would not serve the mode of activity for which our whole organisation seems contrived. This organised activity requires that all which does not interest the particular action we are engaged on shall be shut out from our consciousness in order that attention at the centre may have full illumination. Biology confirms this. It shows us, throughout the whole range of life, species organised for characteristic action within a definite zone or sphere of activity. Every living creature is fixed in an attitude of attention to life, an attitude bending it forward to the action which is forming before it, closing behind it, and shutting out from its consciousness whatever is not calculated to serve or to contribute to the efficiency of its special activity. To the extent that its action is chosen and free the life must become conscious, and the mode of this consciousness determines the range of its freedom, and the form or mode of the activity conditions the objective order of reality in the experience.

We are able then to deduce the momentary character of consciousness from the nature of life. But on the other hand our whole knowledge of life rests ultimately on our experience in the moment of consciousness. It is only, therefore, by the

implication of the concept of a moment, itself an actual experience, that we reach the concept of a reality wider and more fundamental than the moment, yet identical with it. This reality is life. It is the philosophic concept of an original activity, not conditioned by the moments of experience, which are the form in which it comes to consciousness, nor by the content of those moments, that is, by sense-data which are the objective aspect of the experience, but itself conditioning the order of experience and the content of experience by the mode of its own activity. We reach the concept by the same process which led Kant to affirm the reality of the thing-in-itself, but unlike the concept of Kant it is not a reality by its very definition unknowable, on the contrary it is known by acquaintance and its form is not arbitrary but deduced from its nature.

There is an alternative. Many philosophers hold, and they may be right, that what is implied in the moment of experience is not an original activity creating an objective order, but the independent reality of an objective order. The moment of experience in this view brings the mind into direct relation with the real continuity of a spatial and temporal order and with an arrangement of physical elements within that order. This seems to agree with pre-philosophic common sense. It is well, therefore, to follow out the logical consequences of such a theory.

In order to appreciate this alternative theory let us briefly recall the fact. We all acknowledge that normal experience consists of a present moment which endures for a period variously estimated to occupy from 3 to 12 seconds of the time we measure by our clocks. Within that moment we discriminate spatial extension and temporal duration. There is a limit to the discrimination, and many laboratory experiments have been devised for the purpose of determining it. It is said, for instance, that for the visual sense the extreme discrimination is an interval of $1/500$ of a second. The character or quality of the moment of experience is sensation. It is only in that

moment that we have sensation, though we may have in it combined with present sensation memory-images of past or of anticipated sensations. The whole content of that moment is distinguished as present experience from what is past and future, yet within it, though all content is present, there is a distinction of before and after. This in general terms is the scientific and psychological description of the fact we name the moment of experience. What, then, is the problem? The problem is the nature of the unity of the moment and of the continuity of the elements we discriminate within it. If the reality be the three to twelve seconds of mathematically measured instants and the definite number of sense-data this period covers, then the moment of experience is nothing more than the limit of the mind's span of an objective succession. The continuity of that moment will be the mathematical continuity of points in a line and instants in a succession. The continuity of an extension in mathematics means that between any two points another can be found, so that there is never a next point to any point, and similarly the continuity of a duration means that there is never a next instant to any instant, but that between any two instants another can be found. What, then, is the logical consequence of adopting this view? It is that there can be no numerical identity between the moments the series or succession of which corresponds with our lives. Mr. Russell has shown, it seems to me very convincingly, that this conclusion follows, and he boldly accepts it. "The real man, I believe, however the police may swear to his identity, is really a series of momentary men, each different one from the other, and bound together not by a numerical identity, but by continuity and certain intrinsic causal laws. And what applies to men applies equally to tables and chairs, the sun, moon, and stars."*

* Article in *Monist*, July, 1915.

This then is the position to which the alternative theory leads. It may be true. It was, I suppose, practically the position of Descartes, of Malebranche and of Berkeley, and it did not dismay them, but then they could fall back on the philosophical concept of a deity. Each perishing instant called forth in their view a new act of creation by God. But there is no place in present-day philosophy for such a concept. It is not on this account that I reject it, but because mathematical continuity and scientific causality seem to me wholly insufficient factors to account for the living activity I am directly conscious of in the moment of experience.

II.—ON PROGRESS IN PHILOSOPHICAL RESEARCH.

By VISCOUNT HALDANE.

It is with hesitation that I address a Society that contains many who are devoting their whole time and attention to the study of Philosophy. My hesitation is the greater because Philosophy is becoming more and more exacting in her demands on those who are her votaries. In all branches of science it is the same, and specialism is the order of the day. All I can say is that hardly a week has passed during many years of a busy life in which I have not sacrificed at her altar. And if I feel that I remain an outsider, I have sought for an outsider's opportunity of seeing the game as a whole.

I am going to try to make an appreciation, meant not to be wholly one-sided, of the situation as it is at present in the battle of the philosophical creeds. There have been many affairs of outposts, but now it seems to me that the two main forces are coming into real contact. A decision may be a long way off, but we can already, as it seems to me, discern indications of new and great movements. Philosophy looked for a time as if it were at a standstill, but I think that this phase is so rapidly passing away that we may safely assert that notable progress is now being made, and that new positions are being steadily occupied by both sides. The struggle is, of course, between Realism and Idealism. But both of these names, as I shall have to point out, have changed their meaning, and are to-day uncertain in their significance.

To my mind the most striking feature of the situation is the extraordinary advance made by what is called the New Realism. One cannot open a philosophical journal without being impressed by the energy and knowledge of the adherents of this new movement, and by the freshness of its methods. The New Realism appears in various forms. The well known volume of the six American writers presents it in much detail, and carries the method into regions which have hitherto not been much attempted, such as biology. Mr. Russell, who has made for himself a great reputation as a logician and mathematician in one, proceeds, I think, with more reserve. But then he tends to concern himself largely with results attained by new methods in mathematics. Professor Alexander, on the other hand, seeks the very centre of things, and he writes without restraint, and with an obvious desire to be sympathetic to views of an older and different kind. There are other thinkers of much ability who represent different shades of opinion, but I refer to those I have mentioned because it appears to me that in what they have written one finds sufficiently instructive statements about the new point of departure.

Now this new point of departure not only cannot be ignored by anyone who is really interested in the study of philosophy as it is to-day, but such a person cannot be regarded as a serious student if he does not try to master it. For to my mind it presents the commencement of one of those advances in philosophical thought which, whether their results are permanent or not, beyond question leave things further on than they found them. It is a trite but true saying that philosophy has usually made progress by setting up a negative and then incorporating it. On this occasion there is no doubt about the negative. The old doctrine that philosophy must begin with the examination of knowledge because it is through the medium of knowledge that we attain to reality, a doctrine really as old as Descartes, is on its trial. The New Realism

denies that doctrine *in limine*. It wages war with representationism in every form. It distinguishes sharply the object of a mental act from the act itself. In the paper on "Sensations and Images," read before this Society by Mr. Alexander in the Session of 1909-10, a paper which should be considered along with his "Basis of Realism," he describes the fundamental method of the New Realism as he conceives it. It is to exclude philosophical presuppositions, and to state what is actually present in a given experience, so far, of course, as that experience has characters of metaphysical significance. What the method discloses is, according to him, that the object we experience is not only real but complete, apart from the work of the mind in apprehending it. He reproaches Idealism for confounding the mental act of perceiving with what is perceived. In the American treatise on the *New Realism*, Mr. Montagu, in a chapter on the "Realistic Theory of Truth and Error," puts the same case concisely. The argument for Idealism, he says, may be stated as a syllogism:—

"Ideas are incapable of existing apart from a mind. Physical objects in so far as they are perceived or known at all are certainly ideas. All physical objects are therefore incapable of existing apart from a mind."

And he goes on to charge this syllogism with involving the fallacy of an undistributed middle, in so far as the middle term "idea" is used in the major premise to denote the act or process of perceiving, while in the minor premise it is used to denote the object of that act, *i.e.*, the thing or content that is perceived. Now the point which Mr. Montagu makes against what he calls this Berkeleian fallacy is fundamental with the school of New Realism. Its general theory is that percepts are non-mental realities, and that the only mental reality is an act, the act of perceiving. The foundation of the relation of perceiving and perceived is that which underlies the whole Universe, the general relation of togetherness in a real space

and time, and on this foundation consciousness arises and is built up. I am not quite sure that Mr. Russell goes as far as this without some reservations. He seems in his book on *Our Knowledge of an External World* sometimes to go very near to assigning the reality of secondary qualities to the mind. But Mr. Alexander and the American writers draw no such line, as I understand the argument. For them, the entirety of the object of perception, whatever it may be, is external to and independent of the perceiving mind. What is important in the act of perception is simply a conation, resulting in the direction of the mind to the object it knows. For on such an act of direction, and on the capacity of the mind to select and take in perceptions passively and as through windows, depends the extent of the field of the object world perceived. Perception is only a particular case of the much more general compresence of objects in the real space and time which are wholly independent of it, and in which all that is real exists. Where there is consciousness it is an element superinduced on this compresence, and the same thing is true of conception and of abstract thought about things. They are in no sense foundational, but are mere relations superimposed on that of compresence in space and time. In memory we have this same phenomenon, although, as Mr. Alexander points out, time has to be regarded differently from space, and the word "compresence" has to be given a wider significance.

Thus perceptions are external realities, in so far as they signify what is in fact outside of and external to the mind, while consciousness itself appears to signify no more than a certain activity of a special kind developed by the nervous centres of the brain. What is quite clear from the standpoint of this doctrine is that we can no longer assume the concession, as Berkeley and Hume did, of the existence of an intermediate and a purely mental object called a presentation, or attempt to make anything of the kind the basis from which existence is inferred. Existence outside the perceiving mind is known

directly, not indirectly, and existence goes on whether or not there are windows in the mind to let us become aware of it.

Now, although it is emphatically put by the New Realists, this conception is by no means new in principle. Thomas Reid had not their knowledge of modern mathematics and science. But he took a point of view which closely resembles their main point. Speaking of Hume, for whose insight he had a profound respect, he says this :—

“For my own satisfaction I entered into a serious examination of the principles upon which this sceptical system is built ; and was not a little surprised to find that it leans with its whole weight upon a hypothesis which is ancient indeed, and hath been very generally received by philosophers, but of which I could find no solid proof. The hypothesis I mean is that nothing is perceived but what is in the mind which perceives it—that we do not really perceive things that are external, but only certain images and pictures of them imprinted upon the mind, which are called ‘impressions’ and ‘ideas’ I thought it unreasonable, upon the authority of philosophers, to admit an hypothesis which, in my opinion, overturns all philosophy, all religion, and virtue, and all common sense ; and I resolved to enquire into this subject anew without regard to any hypothesis.”*

And again, in a letter written towards the end of Reid’s life to Dr. Gregory, the former says :—

“The merit of what you are pleased to call my philosophy lies, I think, chiefly in having called in question the common theory of ideas, or images of things in the mind, being the only objects of thought—a theory founded on natural prejudice, and so universally received as to be interwoven with the structure of language. The discovery was the birth of time, not of genius ;

* Reid’s Works (Ed. Hamilton), p. 96.

and Berkeley and Hume did more to bring it to light than the man who hit upon it.”*

Reid seems to me to be an underestimated thinker. His claim that “common sense” was his guiding principle has misled the public. He meant by the expression “common sense,” as he tells us, not unthinking prejudice, but what he believed in and names “as the first degree of reason,” and as having for its object to judge of things self-evident. And he contrasts it with reasoning, or the “second degree of reason,” which draws conclusions that are not self-evident judgments of the common sense.”† I cannot but feel that this Aberdeen Professor of a hundred and fifty years ago would have found himself in congenial company could he have heard the metaphysical criticisms in the papers read before this Society by the New Realists of the twentieth century.

But it is not merely Reid who is akin to them. In his admirable book on *The Philosophy of Change*, Dr. Wildon Carr has brought out the striking affinity between their teaching on the point in question and that of Bergson. It is true that they and Bergson have arrived at their results by very different paths, But Bergson, just as much as Mr. Alexander or Mr. Russell, while he insists that all physical reality can be presented to the mind only in the form of sense perception, also insists that the “image,” as he calls it in his book on *Matter and Memory*, is not something detached from the thing, or that merely represents it, but is the object or thing itself. So far from adding anything to the reality which was not there before, perception excludes something from this full reality. The body, Bergson holds, is so organised as to have for one of its primary functions the selection of influences, coming to us from externality, which the mind receives. The principle of the selection is that those influences which do not reflect eventual actions of the body pass

* *Ibid.*, p. 88.

† *Ibid.*, p. 425.

on, while those that concern its activity are reflected and come to consciousness. And consciousness gives us the possibility of choice, in the action of the brain and of the organism which it directs. What is conscious is, however, the mind, the essential character of which is for Bergson continuity of duration. The content of the mind is accordingly memory, which is constantly storing up perceptions. Commenting on this doctrine, Dr. Carr reminds us that for Bergson perception exists only at that point where action is in progress, where the past is becoming the future, and the future is becoming the past. Around this point pure perception exists as the consciousness of the actions of external objects or images, conflicting with the activity, or being utilised by the activity, of a mind which is a continuity of this past in a living present activity. There is no such thing as a pure perception. It is but an element in that living action which as it makes itself becomes memory, and adds continuously to the richness of the individual experience. There is no priority of perception over memory.

Bergson takes us yet further. It follows from his doctrine of selection that the division lines between objects which we identify in perception are really due to the selection which our mind and body exercise on reality. There are no things, but only actions; things are our eventual actions:—

“It is the plan of our eventual actions that is sent back to our eyes as though by a mirror, when we see the surfaces and edges of things.”

The brain is not the organ of thinking, nor the organ of consciousness, but it is the organ which enables consciousness, feeling, and thought to become operative—to become capable of action and to insert themselves in the reality of life. The life of the mind is its concentration in present action; the material motor mechanism by which action is accomplished is the body; and the contrivance by which the mind inserts itself in action is the brain.

Such is the view of Bergson and of his English disciple, Dr. Carr. As further developed in their hands it goes a long way beyond what the New Realists admit or could admit. Just as they, who have arrived at their results independently, hold a principle resembling that of Reid, so the teaching of Bergson seems to me to bear an analogy to that of a much neglected philosopher, Arthur Schopenhauer. Bergson holds, quite logically, that as there are no things, but only actions, it follows that the supposed ultimate reality of the schematisation with which mathematics and physical science alone deal must be rejected. The mode of our mental activity is intellectual, and the intellect schematises so as to form for us a diagram against which to present the world as the sphere of our activity, and thus enable us to grasp it. Such a diagram is essential for action. But this schematism and space and time with it are artificial constructions in which reality though apprehended is distorted. They are quite different, Bergson tells us, from the movement and duration which are not only real but directly revealed to us by the intuition of our direct experience. Life is an order of reality that is original, matter is an order that is derived. The intellect is a mode of activity that materialises reality, is directed on the inert, and is unfitted to comprehend the living. The living activity is creative, is action which makes itself, and so far as it does so is free from external causation. And the body is one of the instruments of this activity, an instrument formed, created, adapted, by the living impulse, for action and for action only. In the consciousness of our own life as duration we have direct and immediate intuition of reality as original movement or change, and sense-data, *a priori* judgments, ideas, the elements which go to the constitution of what we call experience, are originated by this movement, and are intellectual schematisations of it which hide the reality from us. In this point Bergson differs *toto calo* from the New Realists, who hold universals to belong to external reality as entities which, although for sense perception they do

not exist as separate and independent things, yet inhere in the very constitution of the reality that is external to the mind and independent of it.

I pass to Schopenhauer himself. But in referring to his anticipation in his doctrine of some features in that of Bergson I do so only in the same sense in which I referred to Reid as anticipating the New Realists. Schopenhauer died more than half a century ago, and the problem which Bergson set before himself has been dealt with by the French philosopher, not only with a wealth of new scientific knowledge which has come into existence only since Schopenhauer's time, but in his own fashion and, so far as I can see, without assistance from the work of the earlier thinker. Still it is worth while to look backwards. For Schopenhauer was a man of real genius, with the power of penetrating and anticipating which genius confers. He had been a close student of Kant, and looked on himself as the latter's true successor. He considered that he had not only improved the doctrine of the Categories, but had put that of the Thing-in-itself, indispensable as Schopenhauer thought it to Kant's system, on an intelligible foundation for the first time. The other development from Kant, that which culminated in Hegelianism, he loathed and despised. Hegel himself he spoke of as an "intellectual Caliban."

The foundation of his teaching is that in the phenomenal world we do not come into contact with the ultimately real. The intellect constructs that phenomenal world, according to a "principle of sufficient reason," which he substitutes for Kant's arrangement of Categories, in the forms of space and time. So far he is not much removed from Kant. But something that is not phenomenal is revealed to us by direct intuition, and this is a *nisus* or striving of which we are directly conscious as underlying the action at least of our own bodies, and which distinguishes the body, so far as direct experience is concerned, from surrounding nature. This *nisus* he calls Will. It is neither in time nor determined by motives, for these belong

only to its phenomenal manifestation. But it is the activity which underlies the whole Universe. We apprehend it directly in ourselves, but not intellectually. The intellect only distorts its character. The analogy with Bergson is so far pretty close. It is not for Schopenhauer admissible to say that the will has its seat in the brain. Rather does the whole body disclose itself as the exhibition of the will, although it is objectified, so far as perception is concerned, by the functions of the brain. The reason of this is that the will, which expresses itself in every phenomenon in nature, even in vegetable and inorganic phenomena, appears in men and animals as a conscious will. The necessity of consciousness, explains Schopenhauer in Chapter 20 of the supplement to the second book of his *World as Will and Idea*, is that in consequence of the multifarious requirements of an organism the acts of its will must be guided by motives, and not, as in lower grades of existence, by mere stimuli. Thus there is developed by the impulse of the will itself a cerebral organisation, so perfect in the case of man that unity of consciousness arises in the form of a theoretical ego, the supporter of the entirety of consciousness, in which it presents itself as identical with the willing ego, whose mere function of knowledge it really is. It thus becomes Kant's synthetic unity of apperception "upon which all ideas string themselves as on a string of pearls, and on account of which the 'I think,' as the thread of the string of pearls, must be capable of accompanying all our ideas." The world thus becomes idea as well as will.

Such is the main thought of Schopenhauer, the "single thought" of which he speaks in his chief work as being reiterated throughout that work in different applications. It leads to a conception of the Universe as, on the one hand, a phenomenal construction by the intellect, and as, on the other, disclosing to intuition, not only will as something of which we are directly aware, but different stages or degrees in that Universe in which the will manifests itself by giving rise to

forms which are not things subject to the principle of individuation, in accordance with which the intellect fashions phenomena in space and time, but are rather universals analogous to the Ideas of Plato. In Music and the Arts in particular these universals disclose themselves as stages in the self-realisation of will. In this way they are analogous to what in a very different school of thought are called degrees of reality and value.

Schopenhauer's writings are full of acute criticism of the science of his time, directed from the standpoint of his system. The science is largely superseded, but I do not think that we can even now neglect the criticism. It is work that stands by itself. He has, indeed, no school and no organised following. The Universities of Germany held aloof from him. But, like Bergson, he pulled up current thinking, and no man could be abreast of the time who had not considered what Schopenhauer had to tell him. My own feeling about the system of Bergson is much the same. I think we shall come to see that we owe an immense debt to his investigations. Like Schopenhauer, he has taken intellectualism to pieces. And he has done this so thoroughly that I doubt whether a purely intellectual doctrine is likely to be set up again, at all events in our time. But when I look at the positive and constructive principle of his philosophy (I do not refer to the invaluable contributions he has made to psychology and the foundations of natural science, but to his metaphysics), I am haunted by a misgiving I cannot get rid of. Can the parts of his system hang together? If, as he has said, the intellect distorts reality, we must not forget that it is the only instrument that can give us definite knowledge about that reality. It was not by mere intuition that Bergson learned how the world was constructed by selection for the purposes of action and of fashioning images. His theories of perception, of action, of memory, and of intuition itself, seem to me to be themselves the outcome of intellectualism. I think that in his case, as in that of

Schopenhauer, the doctrine of the fundamental and original *nisus* is one which can in truth be regarded in no other light than as being an inference by intelligence. While, therefore, speaking for myself, I set a high value on what I have learned from the study of his three great works, and while I think he has made a distinctive and most valuable contribution to progress in philosophy, I feel that he has not met the dilemma which all scepticism has to face. I turn away in the end with the sense that I have seen much material passed through a furnace in which the dross has been separated from the pure metal, rather than that I have found a method by which the pure metal has been added to. I derive the impression that, in the philosophy of Bergson, as elsewhere, I have to be on my guard against the notion that metaphors, however attractive, do more than disguise unsolved difficulties. And I have this impression not the less in that I fully appreciate the valuable stimulus to inquiry which his methods afford. There is, for example, present to my mind the admirable investigation into the nature of the "specious present" made by Dr. Wildon Carr in the paper on *The Moment of Experience*, read by him before this Society a few weeks ago. With several prominent things in that paper I find myself in cordial agreement. The fresh light which Dr. Carr has cast on a great problem shows that the methods of various schools of thought can be made to converge towards a result in which to-day there tends to be much concurrence.

I turn back, therefore, to that other plan for restoring belief in reality and for rescuing it from idealistic intellectualism, which is distinctive of the New Realists. Mr. Alexander deals with this question, not only with understanding of the idealistic contention, but with resolution to come to close grips. He stands up to his difficulties. He is conscious of what he has to face in the object world in what he recognises as the "all pervasive principle of interpretation." The interpretations, he admits, form part of the object itself, and the meanings of

things are part of their constitution.* This is what makes constructive imagination possible. But still it is always external materials that are being handled. And for him the stores of experience which the mind brings with it to the apprehension of things are themselves non-mental and physical, and the mental actions are themselves but instrumental. The percept and the image, whether given at the moment or given through memory, are the object appearing in different forms, and the one form is non-mental in the same sense as the other. In the first case the experience means the togetherness of the mind as perceiving with the percept-object, in the other the togetherness of the mind as imagining with the image-object, equally non-mental. The difference is that the mental action has been evoked in the two cases by different means, in the one case by the direct action of an object compresent in space, in the other by association or by some stimulus. By compresence generally Mr. Alexander is careful to tell us he means co-partnership. The expression must receive a special meaning in reference to time. For an object remembered is "prior to the memory of it, and may have ceased to exist before we remembered it." This, he admits, suggests difficulties as to the nature of time. Still, what is remembered is for him non-mental. It is distinct from the act of remembering, which is an act of consciousness, a distinctive quality which belongs to the nervous system at a certain stage. Consciousness appears as a phase of compresence and is related to its object as effect to cause. Thus consciousness is a real existence; "whether we call it thing, or function, or quality, it is clear that it cannot be a relation." The only true relation is indicated by the "of" in conscious experience of object, and consists in the togetherness of the perceiving and of what is perceived. To sum up the result in Mr. Alexander's own words†:—

* *On Sensations and Images*, p. 19.

† *The Basis of Realism*, p. 12.

"Granted that our thoughts and material objects are identical, whereas Berkeley repelled the Lockean separation of ideas and things by declaring material things to be ideas, our realism declares that such ideas are material things."

Now the last criticism that would be just in the case of Mr. Alexander is to suggest that he does not try to realise the case of his opponents. He is well aware that the view with which he contrasts his New Realism is one which is not the view of many modern Idealists. He knows that between Kant and some later forms of what is called Idealism there is a distance almost as great as that which separates Kant from Berkeley. The choice is, I think, no longer between ideas and material things, nor are we driven by common sense or common experience merely to choose between Berkeleian or even Kantian "ideas" on the one hand and non-mental realities on the other. Accordingly, speaking for myself, while I recognise that considerations of common sense are claimed as premises for the conclusions of the New Realism, I do not think that the conclusions follow from the premises. It is one thing to hold the "That" to be incapable of being deduced or constructed out of intelligible relations, or of being reduced to universals. It is another thing to draw the inference that the "That" is non-mental, in the sense of existing apart from any relation to a subject of knowledge. Much evil in philosophy has arisen from labels. Idealism is a highly ambiguous word, and to-day I feel shy of it. Hegelianism is another vague expression. In using it one must be careful to define one's attitude. Some of us who feel we owe a great debt to Hegel do not forget that his work ceased 84 years ago. Now no one who wrote so long ago as that can be a guide sufficient in all respects for to-day. Science, extending from the fields of mathematics to those of psychology, has advanced in the interval with great strides. The material to be sifted has changed. Moreover, Hegel himself declared that the detailed

scheme of his *Encyclopædia*, the system of the Categories, and the account of nature alike, although they were the best he could do, were by no means the last possible word. Only of the general method did he feel sure. What he says of the method of his logic is that it must be susceptible of much improvement and many completions in detail, but that it is, in point of principle, the only method that is genuine.

Yet it is not the method, even in its broadest features, which seems to me to be Hegel's lasting contribution. His true contribution consists rather in his having offered an analysis of the meaning of reality more comprehensive and penetrating than any that had been presented before his time. His result has the great merit that it allows room for every element, and especially for values and degrees in reality. This is not in itself a test of truth, for these apparent values and degrees may be illusory. But inasmuch as they appear as aspects of our object world, aspects which must be recognised as actual unless they can be explained away, there is a presumption in favour of the kind of analysis which can recognise them as belonging to the system of the real as against the kind which cannot do so. To me those phases of experience which I meet with in high forms of lyrical poetry, or in portraits by great artists, or in that other kind of artistic expression which characterises the work of the best historians, or, for that matter, in religion, are as real as the phases of which logical atomism, to use a phrase of Mr. Russell's, takes account. Yet logical atomism, and even the form of the New Realism, which is most comprehensive, seem unable to do the former justice. In the phases of experience of which I am speaking the universal is nothing apart from the particular, and the particular as such is, taken by itself, equally unreal. Both are abstractions. The only actuality is the individual fact from which they are abstractions non-existent by themselves. And the essence of this actuality is that identity-in-difference which seems to some of us to be possible only where existence means existence which is included in the experience and context of

mind when existence is its object. There alone the whole is present in every detail. Because its essence is to be so included, the individual is always breaking out, in the intellectual movement from which it is inseparable, into relations, into predicates, into universals, which have yet no subsistence apart from the facts which they qualify, facts which appear as particular only to the abstraction which forces direct apprehension to strip and isolate its work. Much of the obscurity in the language of philosophers has been due to a mode of speaking about particular and universal as though these were entities subsisting independently. It was one of Hegel's services to philosophy that he strenuously contested the validity of this mode of speech. For him, as I interpret his doctrine, individuality was the form characteristic of the object world, and the foundation of this form rested on the fact that in the only experience of it that is ours this world implies a subject-object relation. Things and substances are in themselves abstractions and incomplete. It is within the over-reaching subject-object relationship that reflection brings into definiteness the distinction between subject and object themselves. Now the entirety within which this distinction is made is necessarily a higher and further reaching conception than that of mere substance, itself only one of the abstract conceptions of reflection.

I will only add that in stating this principle as it commends itself to me I am aware of the questions which Mr. Bradley has recently raised about it in the chapter of his *Essays on Truth and Reality* which deals with our knowledge of immediate experience. But I do not think that I find myself remote from what he says about the immediate feeling with which knowledge begins, "the direct sense of my momentary contents and being," provided that this feeling is taken as an asymptotic limit rather than as a concrete and actual fact of experience.

I am speaking, of course, of the world of experience as we encounter it, that is as it is presented within the human finite centre which alone we know directly. Of anything else I seem

to be able to tell very little. Of the mere feeling of a jelly-fish, if there be actually any such feeling, I can present to myself no adequate conception. The effort of abstraction seems here to carry me beyond reality as I know it. For my dog, again, the Universe is clearly more limited than it is for me. He does not develop abstract predicates to anything like the same extent as I do. He is apparently no automaton. He seems to me, as I observe his behaviour, to reason and to have something of a conscience, and some sense of himself as a subject. His world is certainly one of more than mere isolated particulars. But as to the worlds for organisms lower than human it is difficult to draw inferences. The analogies are misleading. Instinct, which is something between the mere quasi-purposiveness that marks off merely the organic world, and the conscious realisation of ends, is a phase by itself and is apt to be misinterpreted. Here Bergson has had much to say. The only safe course, under this head as under others, is to start from our own actual experience as the only reality we know directly, and to remember that we make our interpretations by abstraction. If we adhere closely to this method we must regard mere feeling as an unreal abstraction, although in the case of a finite centre lower than our own the individuality of feeling, where feeling is taken to exist, may be legitimately regarded as far less developed than in ours. But the actual experience that is ours always involves universals and the judgments which are required to bring these abstractions to light. Hegel may be superseded, the system may be out of date. But what appeals to me in reading him is that he seems to bring the broad principle of which I have been speaking more clearly into view than anyone else has done. He may be unreliable in these vast schemes for exhibiting his view of the Universe which he sets out in his *Encyclopædia*. I do not know. It is not the question which most interests me. I feel the force of many things that Professor Pringle Pattison long ago said in the penetrating criticism of the system in his *Hegelianism and*

Personality. With what he says later in *Man's Place in the Cosmos*, I find myself in much agreement. But as I understand Hegel he did not try to deduce nature from logic or mind from nature. He seems to me to have started with a "That" which could not be analysed into anything beyond itself, as the initial phase in the concrete content of experience. Such experience is for him object for a subject, and the subject-object relation is fundamental in it. His point of departure was, therefore, the world as it lies before and within the mind of man. On this, in his *Phenomenology*, the book which is really the preliminary to the whole of his system, he lets reflection play, and shows how apparent particularity is due to abstraction, and the truth always tends towards the whole. His so-called "absolute knowledge," an unlucky phrase I think, is not as I understand him the knowledge of an absolute mind, but a description of what knowledge would be if its abstract character and consequent imperfections were fully grasped. Having thus prepared the ground, he endeavours in his *Logic* to exhibit in systematic form the universals or forms of thought which the individual facts of experience involve. They are for him nothing but abstractions from the factual content of mind. He then exhibits another set of abstractions, the particularity of directly perceived Nature taken in abstraction from thought, and thus equally unreal. The two are abstractions which have reality only in that experience which is the world for Mind, the form of which is to be individual, the That which cannot be deduced, but which, because it exists in every detail as the field of mind, ever tends beyond itself. What is important is not the system but the broad principle. Mr. Bradley's Feeling and his Absolute seem to be the outcome of a similar principle differently applied. And they appear to me to indicate limiting conceptions rather than factual existences.

The view of reality which I am suggesting is not what is generally attributed to Hegel or meant by Idealism. But if Idealism in its essence imports of necessity that the facts

which confront our minds can be resolved into universals or into qualities or relations, then I say at once that I cannot follow it. On the other hand, I know nothing of any "That" existing independently of universals and qualities and relations. The form of individuality, the essential characteristic of which is identity in difference, seems to me just as unintelligible apart from a mind which finds its own nature revealed in the object world as is identity apart from difference and difference apart from identity.

There is growing up in this country and in America a new school of those who have been profoundly influenced by Hegel, and who, while sitting loose to his details, interpret the foundation of the Hegelian system somewhat in the sense I have tried to indicate. One recent American interpretation is striking, and has a freshness analogous to that of the New Realism for which the thinkers of the United States are doing so much. Professor Watts Cunningham, of Middlebury College, Vermont, has written a book called *Thought and Reality in Hegel's System* (published by Longmans here and in New York), a book which ought to be better known in this country. In it he gives an account of the Hegelian principle, basing his work on Hegel's own language and not on that of the commentators from whom most of the current ideas of Hegelianism have been derived. He starts with the *Phenomenology* as the foundation. The scheme of the *Phenomenology* he says, is not, as is commonly suggested, to trace an organic development from one to another stage of consciousness, ending with a knowledge which is that of the Absolute. All experience is characterised by a subject-object relation, and the purpose of Hegel is simply to exhibit the important changes that take place in the relation of subject and object as experience is traced through the various attitudes of consciousness. According to Professor Cunningham, Hegel's endeavour is not, like Kant, to investigate the possibility and limitations of knowledge. "He accepts knowledge and the knowing

experience very much as it is accepted by common sense, and then proceeds to develop its implications. Passing dialectically from sensuous consciousness through self-consciousness, reason, spirit, and religion, he finally arrives at what seems to him to be the true attitude of consciousness, the truth of the knowing experience!" This he calls absolute knowledge, but it is based simply on our common experience in knowledge, and sensuous consciousness is an essential element in what is called absolute knowledge, just as much as in any other kind. "It is still experience, but it is experience thoroughly rationalised. What Hegel means by thought, when he asserts that it is conterminous with experience, is simply that principle by virtue of which experience is an organic and unitary whole. It is that life of mind itself, which includes within itself feeling, will, and cognition, and which finds its very being in the expression of the living unity of the mind's activity."* The idea that Hegel tried to reduce things to pure thought about things, or that he maintained that thought could possibly *be* the existent thing, is, for Professor Cunningham, a total misinterpretation of Hegel's real meaning. It is inconsistent with the pre-supposition of his whole philosophy, namely, that reality depends essentially on a subject-object relation. It is also inconsistent with his view that the universal and the particular are not separable. "He neither desires nor attempts to explain away the factual side of experience: he simply denies that an inexplicable datum has any part or lot within experience. Not immediacy but abstract immediacy, immediacy apart from interpretation, is unreal."† And "thought finds its capacity to express the real in the fact that its universals are always the syntheses of differences, and not the blank universals of purely formal logic. Actual living thought includes in itself the data of so-called intuitive perception, of feeling, of

* *Op. cit.*, p. 19.

† *Ibid.*, p. 23.

cognition, and it is adequately conceived of only as this unifying principle of experience; it is the living unity of mind, the one reason that appears in every mental activity. Therefore, when Hegel teaches that thought is con-terminous with the real, he is simply stating the doctrine that experience and reality are one." And when we arrive in the *Phenomenology* at what is called absolute knowledge, "we have reached, not a new kind of experience, but only a more concrete point of view in our common every-day experience." When the *Phenomenology* has brought us so far the *Logic*, the *Philosophy of Nature*, and the *Philosophy of Mind* are only three points of view from which one organic whole is observed and interpreted. The first investigates the more strictly cognitive side of experience; the second has to do with its crass objective, its sensuous aspect; while the third undertakes to interpret its spiritual values. "Each in a sense has the same content: the difference among them is rather in the form which that content assumes" (p. 58). There is no transition to or deduction of one from the other.

I have dwelt on Professor Cunningham's book, not only because it contains an exposition of the Hegelian principle which is quite unlike some other expositions that pass current here, but because I think it conveys what Hegel really said. I have also referred to the book because the author belongs to a new school of Idealism which has apparently taken root in America. Like the New Realists these New Idealists reject, not only the teaching of Berkeley and Hume, but much of that of Kant. They believe in the reality of the world as it seems. And they hold universals to be real in so far as they enter into the constitution of experience, and account for the identity in difference which is characteristic of the individuality that is its fundamental form.

The conclusions of such an Objective Idealism bear some analogy to those of Mr. Alexander and of the Modern Realists who think as he does. The realism that asserts the actuality

of universals in the objects of knowledge, and that these universals are themselves objects of knowledge, is at least totally different from the old materialism. There is in some of its results a good deal of resemblance to an Objective Idealism which denies that reality can be resolved into relations or deduced from abstract universals, and draws a fundamental distinction between the That and the What. But the resemblance is limited. For Modern Realism, while recognising universals as belonging to reality, asserts that like all other objects of knowledge they are extra-mental, and exist as what I think may properly be called substances apart from a subject-object relation. Consciousness is but a property of a physical thing which is together in space and time with another thing. Cognition is an incident which may or may not arise between things in this relation. It thus soon becomes plain that while universals, the formal or categorial characters of things, as Mr. Alexander calls them, are present both in minds and things, their reality depends on a hypothesis which is hardly admissible for the objective Idealist. For it is difficult to see how these categorial characters can be isolated entities with which we come passively into contact in an act of perception which is simply the physical relation of one substance with another. They appear rather to be aspects arising within a whole, the conception of which we are striving to organise as we extend our knowledge.

The relation of compresence in space and time of two substances is surely not one that is final. Its nature is rather derivative, arising within the world of mind and not outside it. The mind seems, when its nature is considered, to envelope that world and not to be a thing acting inside it. The "Two Substance" notion appears to be inadequate, and the relationship alleged must surely at all events be one that is a long way from being final. It must fall within a larger whole if it is to be intelligible and not a mystery. And if this be so the categorial characters which are under discussion can only

stand on the same foundation with the characters that have been called the "tertiary" phases of the Universe, those qualities which belong to art, to morality, and to religion, and which are unmeaning excepting in relation to the mind which is capable of artistic feeling, of moral judgment, and of religion. On this aspect of the controversy I do not wish to dwell farther. For all that strikes me has been said better than I can say it by Mr. Bosanquet in his criticism of Mr. Alexander, published under the title of *The Distinction between Mind and its Objects*. What I will venture to observe is that I think that the history of philosophical controversy affords few illustrations of argument more helpful and useful on both sides than the discussion which has been carried on between these two thinkers.

Mr. Bosanquet seems to me, and I hope I do not misinterpret his careful statement, to present the concentrated essence of Objective Idealism. Shortly stated, his argument is that if dualism, or what is sometimes called eclecticism, is to be avoided, the New Realism must claim more than it does for the external world. For if mere feeling is reserved for the mind, then tertiary qualities, such as beauty, cannot have justice done them. Moreover, if universals are to exist in the extra-mental world and apart from mind, then physical reality is so transformed from the way of regarding it of the old-fashioned realist that it exhibits a logical vitality impossible to dissociate from continuity with a psychical system. Mind, says Mr. Bosanquet, does not really confront its object as one thing in space confronts another. It takes itself as a world and not as an object in a world. Mind is a whole, its object is a fragment in a world that may be erroneously conceived, but is not the less a world and a system always striving towards self-completion. As for universals, either you throw the work of mind on the shoulders of a physical reality and thereby transform the latter fundamentally, or you connect it with the nature of mind as living in the contents, and then

you have abandoned the doctrine of petrified or extra-mental universals. Realism, in short, ceases to be realism, for idealism is let into the fortress from the back. Continuity of the real world with mind seems to Mr. Bosanquet to be the inevitable goal and climax of twentieth century physical realism, as opposed to eclectic materialism.

But I should be doing injustice to both Mr. Bosanquet and Mr. Alexander if I tried to summarise further the controversy between them and the arguments they have used. There is just one observation, however, which I may repeat here. The terminology of the New Realists strikes me as being throughout hampered by the obliteration of a very real distinction. I mean by what is really an inveterate employment, not the less actual because it is rarely made explicit, of the conception of substance to the exclusion of that of subject. Subject belongs to fact just as much as substance, and to me it appears wholly wrong to treat mind as if it appeared to observation as a thing. This expression is not more appropriate in the case of what has been termed a finite centre than it is in that of the nature of mind generally. The words "mental" and "extra-mental" seem to me to bring in the assumption to the contrary in disguise and in a dangerous form. It is just the old "Two Substance" theory. Once brought in, the principle of the New Realism of course follows. Once excluded, the New Realism is hardly any longer a possible explanation. Compresence or togetherness, its very principle and foundation, becomes inapposite as a description of the relation of the subject and its object. The criticism applies to M. Bergson as well as to Mr. Alexander. If mind is subject it must always in principle cover, as it appears in fact to do, the whole, and include its particular objects as fragments, to use Mr. Bosanquet's language. Mr. Alexander appears on the contrary to treat mind as a substance, or, what is for practical purposes the same thing, as the activity of a substance, and by doing so to fall into difficulties arising out of the fragmentary character which he is thus forced to attribute to it.

But whether one agrees with Mr. Alexander or not it would be gross ingratitude not to acknowledge that by his fresh treatment of a great subject, and by the closeness and originality of his investigation, he has carried things a stage farther on. He seems to me to have brought the two great schools of philosophic thought so near that though opposed they can hear and understand each other's language. And this is a good thing to have done. We now know better how Realism and Idealism stand towards each other, and the hope of closer approximation in the future may well be entertained.

So far I have said little of Mr. Russell's contribution to the controversy. This has not been for want of admiration for the scientific work he has done. It is rather because I feel that I cannot penetrate his mathematical entrenchments. But none the less I am pretty sure that his positions are not tenable against turning movements. He does not seem to me to have always stated the case of the other side adequately. Some among us may recall a sentence in his *Knowledge of the External World* (p. 168), in which he himself says that "those philosophers in the present day who have had their doctrines stated by opponents will realise that a just or adequate presentation of Zeno's position is hardly to be expected from Aristotle." Now I do not think that Mr. Bradley, for instance, would admit that his theory that all predication is of reality compels him, as Mr. Russell declares, either to deny that for practical purposes, including those of mathematics and science, relations are to be regarded as real, or to admit that he is precluded from taking account of the asymmetrical relations which are involved in series. Nor is it obvious that antinomies are the terrible and unnatural errors that Mr. Russell takes them to be. Of course they are not final. They are the products of abstract and therefore imperfect methods in thinking, and they are superseded as thought progresses by such fresh methods as are illustrated, for instance, in Mr. Russell's own book. It was probably a great step forward when Mr. Russell

and Frege, to whose work he bears generous tribute, showed that the number of terms in a given class can be defined as meaning "the class of all classes that are similar to the given class," and that this definition not only yields the usual arithmetical properties of numbers, but is applicable equally to finite and infinite numbers. It may well be that this definition lifts us above certain apparent antinomies, arising from a previously supposed necessity for enumeration. In the same way it was no doubt a step forward when it was discovered that in cases of infinite collections they may be known by characteristics of this nature, although the terms in such collections cannot be enumerated. Even a non-mathematician can see this from a distance. But what is not apparent is why such a discovery should imply a revolution in the foundations of logic. Here I have not found Mr. Russell convincing. It is, of course, true that the data of common knowledge can by analysis often be made to result in simple and precise propositions, which not only give rise to new applications of mathematical and other methods, but justify deductive logic. In the absence of such analysis interminable and unnecessary controversies about apparent antinomies naturally arise. But does this fact properly lead to the conclusion that provisional antinomies do not arise, or that all predication is not in the end about reality, or to that of the "logical atomism" of such a New Realist as I take Mr. Russell to consider himself. Admirable constructions may doubtless be made through which the world of sense experience may be rendered amenable to mathematical treatment, by defining, for example, series or classes of sense-data which can be called respectively particles, points, or instants, despite the fact that these are not experienced as actually existing entities. But these constructions cover only certain aspects of the field of knowledge, and are wholly inadequate to some of its other aspects. For other aspects disclose to observation and experiment relationships which are difficult to understand apart from continuity with mind, or in other words

from a subject-object relation. I do not merely speak of such extreme cases as beauty, or morality, or religion, although these aspects unquestionably belong to the world in front of us. I refer to aspects of experience which are less remote from those with which physical science deals. The New Realism with its "Two Substances" view, and its denial of continuity between mind and its objects, has, indeed, a difficult task when it comes to the phenomena of life. Here Mr. Russell's schematisation seems wholly inadequate to the task of giving an account of the object world which appears before us. For the dominant aspect is now not one of mathematical or physical or chemical relations, but of the realisation of ends. If we confine ourselves to the phenomena of life alone the action we experience, although not yet consciously purposive, is quasi-purposive.

The facts which confront us when we examine a living organism disclose that we cannot base ourselves on the principle of "logical atomism," or take its data in fragments as if they existed one by one. The characteristic is that the details of form, of movement, and of chemical composition and change, which we distinguish in the facts observed, are essentially and not merely accidentally connected with one another. Identity in difference is the characteristic relationship. "We are accustomed to the fact that a limb, or even a bone, of a certain build is associated with a whole body of a certain build. We know also that if an animal is breathing we may expect to find its heart beating, and all its other organs in a state of more or less evident activity. We associate together the details of structure and activity as those of a living animal; we think and speak of it as alive, and we regard its structure and activities as the expression and manifestation of its life. What I wish to maintain is that in so regarding a living organism we use a hypothesis which is for biology just as intelligible, just as elementary, just as true as to the facts known, and just as good a scientific working hypothesis, as is the hypothesis of the

indestructibility of matter for physics and chemistry." I quote this from an address recently delivered by my brother, Dr. J. S. Haldane, on "The Place of Biology in Human Knowledge and Endeavour."* He illustrates the principle by a number of examples. Recent exact investigation has shown that the breathing in each person is so regulated as to maintain during rest a certain absolutely definite mean percentage or, more correctly, partial pressure of carbon dioxide coming off from the venous blood, and the amount of fresh air introduced into the lung alveoli by the breathing. The average breathing is thus regulated with almost incredible exactitude in accordance with the varying rate at which carbon dioxide is produced in the body and brought to the lungs by the blood. No existing physical or chemical method of demonstrating changes in alkalinity approaches in delicacy the discrimination of the respiratory centre.

Another example which Dr. Haldane gives is the new conception of the kidney as an organ which responds with almost incredible delicacy to slight changes in the composition of the blood, and so responds as to keep the blood composition normal. "The old gross mechanistic conceptions of fifty years ago with regard to the action of the kidneys are entirely obsolete, though they still occupy a time-honoured place in current text-books. The kidney, if it be a mechanism, is like the respiratory centre, one of extraordinary delicacy and constancy in action; and we are again up against the question how, with such a labile structure as protoplasm, such constancy can be maintained in the physiological environment of the secreting epithelium as will correspond to the secreting constancy of the action of the supposed mechanism." The evidence is that the organism itself determines the stimuli to which it responds, and the ratio between physical stimulus and actual response. We have to grasp the phenomena of organic

* *Transactions of the South Eastern Union of Scientific Societies*, 1915.

life as a whole, "simply because, whether we will it or not, they present themselves as an organically determined whole." Here is a summing up of the method of Physiology which forms an interesting parallel to Mr. Russell's views. I say a parallel, because I do not think that the two views really conflict. Both are arrived at by abstraction from more comprehensive aspects. "We can now get a clearer view of what the true aim of Physiology is. We can see also that this aim reveals itself to us in actual physiological observation and experiment. In the crude sense material which presents itself to us we are tracing the thread of constancy in which the living organism manifests itself; in the apparent chaotic whirl of life processes we are tracing organic activity. The idea of the maintenance of the faint alkalinity of the blood at once lights up for us and enables us to predict a whole mass of phenomena connected with respiration, circulation, and excretion, and points the way to interpretation and treatment of many of the symptoms of disease. Following similar lines, and proceeding always on the assumption that the living organism is really an organism and no mere machine, Physiology can progress steadily and confidently, adding continuously to what is already known about living organism, and with a clear appreciation of the essential points that await investigation."

It seems to be not only unnecessary but wrong to assume the existence of a vital force. The view just stated is as inconsistent with vitalism and its conception of a special force or quality of a substance as it is with the physico-chemical theory of life. What the biologist ought to do is to go back to ordinary observation, unobscured by prejudice, and to realise that the conception of a living organism stands for a fact which we see before us, and is the only hypothesis that will work. The life of such an organism is no doubt in one sense the sum of its activities, but then these activities can only be grasped individually in so far as they are grasped as activities of and within a whole. There is here again identity in difference.

When we turn to reproduction and development the argument seems even stronger. For "as if to convince us by an ocular demonstration that the organic whole is in the parts, Nature, in the reproduction of an organism, seems deliberately to scrap everything that might be supposed to be mechanism, and then build the whole organism up again out of one small part." A mechanistic theory of heredity in particular seems to break down *in limine*.

But after all, as I have said, these working hypotheses are all more or less abstract, whether they are those of the scientific field with which Mr. Russell deals, or of that with which Dr. Haldane is concerned. And I have quoted both writers because of their special knowledge based on direct research. I need not add that I am by no means in a position to check or criticise their observations, whether of the phenomena of number or of those of the living organism. What is, however, clear is that correct working hypotheses are in each case essential for the extension of knowledge. But these conceptions, although they may work and be true as far as they go, are neither the whole nor adequate to the whole. The importance for my present purpose of the conception of life is that it is an abstraction which points beyond itself. On the one hand if life can be traced back to inorganic matter it may well be that we shall have to revise our conception not of the organic but of the inorganic, and to recognise that the tendency to abstraction which is characteristic of thought has, in the so-called inorganic world, unduly stereotyped a mere working view. On the other hand, the quasi-purposive action of the living organism, and its control by the end which it fulfils, equally point beyond it to a phase of experience which is more concrete and less unsatisfying. The least abstract aspects of experience are exemplified in those in which mind is confronted, not by mechanism, nor by mere life, but by mind itself in the form of human beings around us organising themselves for conscious social purposes into larger

wholes, and dominated by intelligence and the sense of good and evil. May not the true method of science be to aim at proceeding downwards rather than upwards, and to start off with the set purpose of working from the starting point of the special characteristic of the most concrete phenomena, where the mind that perceives regards itself, not as mere substance confronting other substances, but as subject in a plainly realised subject-object relation, and as belonging to a whole of reality which embraces both the object world and itself? Our world of experience we may not be able to resolve; it is the *That* which confronts us. But mind reaches over it, for the final and full character is that of mind, and it is only by abstraction from that final and full character that we can approach, for instance, to such an idea as that of mere feeling.

I have tried in this paper to convey what is rather the tendency of my private reflections than any cut and dried conclusion. I doubt whether final conclusions are as yet practicable. The advance of our grasp of experience is always compelling us to do all our work over and over again. The New Realism is itself an illustration of this compelling force. Speaking for myself, I think its conception of reality is too abstract, in the sense in which I have used the word, to be adequate to the whole truth. But it has brought out the insufficient character of certain forms of Idealism, as well as of Materialism itself. Idealism as a system requires a continuous revision as science, and especially psychology, progresses. The result may in the end be the abandonment of the name equally with that of Realism. But from this result I think that we are still separated by a considerable distance that has yet to be traversed.

III.—ON THE COMMON-SENSE DISTINCTION OF APPEARANCE AND REALITY.

By J. W. SCOTT.

THE main interest of the following discussion is intended to lie in questions regarding the conception of quantity. What is the force of the idea alive in the mind when it uses quantitative terms? What is it in anything that ordinarily justifies us in calling it great or little? This question, however, does not occupy the whole of the paper. It was necessary also to show why such a question is important. The reason is developed partly in the first part of the paper and partly in the last. Shortly stated, it is this: the question of the meaning of quantity is important because a characteristic practice of the ordinary mind is to *succumb* to quantity, whilst engaged in important parts of its work. In the paper as a whole I have tried three things: (A) to notice some ways in which the mind in its characteristic work (the work of seeking out reality) defers to quantity, (B) to find what exactly the quantity is to which it thus defers, and (C) to notice some further and more wide-ranging ways in which the mind in its search for reality similarly defers to quantity, and (D) to draw some conclusions. I should like to add, by way of final preamble, that the considerations about to be submitted in this paper upon what is to me an interesting and obscure subject are more or less of a tentative nature, and I hope that I may not be betrayed into any such appearance of dogmatism in the statement of them as would lead to the idea that they represent, at any rate at present, a set of fixed philosophical views.

A.

1. The immediate theme is the manner in which common sense distinguishes appearance from reality. If these two terms have acquired any technical meaning such that common sense can no longer be said to work with the distinction, then I will presume so far in this paper as to use them to represent a distinction with which common sense does work constantly. I refer to the distinction made use of on any ordinary occasion when anyone says, about some subject-matter, that it is one thing and not another. "The little cloud on the horizon yonder which looks about the size of your hand is really miles in extent." I am taking it that in such a statement as this, common sense is distinguishing appearance from reality. And so, whenever it says about anything, "It is this and not that," "It is thus and not thus," "The hill there is not 'quite near,' it is really very far away," "This animal is a mammal" (the implication being "You would not know this by merely looking at it"), "The queer mark on this paper is a letter of the Greek alphabet" (implying: "I need to tell you this; you did not know it; the object wore to you a certain appearance, but this is what it *really* is"). Common sense constantly uses this distinction. Its whole life consists in applying it. Its business in the world, one might almost say, is the ignoring of first appearances, in its instinctive, ceaseless search after what it takes to be realities. And in correcting its defects, showing to it as we do, *e.g.*, in science, how much it is still the victim of surface appearance and superficial views, we are only carrying it further along its own path. Common sense never goes through the world taking things at their face value. Rather, it goes through the world picking out the realities from amongst appearances and adjusting itself to them. The question I wish to raise is, How does it decide upon reality? When is it satisfied that it has got it, and not simply another passing appearance?

A person would be taken by common sense to be in touch with reality when, to put it quite roughly, he knew his way about the world. To know what the object of perception "really" is—"This is a stone," "That yonder is a pool," "Here is a circle"—is, in the last resort, to know what to expect of it. It is to be insured against disappointment when the thing commences to behave or reveal itself, when under the proper conditions a stone falls, water flows, a circle's radii turn out equal. "The patch of colour beyond the river is a corn field." The "is" denotes the confident anticipation of a mass of unspecified experience. To be able to say what the appearance which has arrested the senses "really is" is to know what more will happen and the conditions under which it will happen. The field will appear bigger if I go nearer to it, if I wait awhile its tint of yellow will deepen to gold, still later it will be a stubbly expanse which will prick bare feet if they tread on it, and so on. These anticipations are not definitely articulated to the mind. But they are anticipations at least thus far: that the things do not take us by surprise when they come. The anticipation of them puts one in the state which common sense regards as "being in touch with reality." Our question is, How does common sense succeed in getting its world arranged in this way? By the use of what criterion, on its part, does its world become peopled with real things whose superficial appearances no longer deceive it?

2. The fundamental point is simply that one object gives us many impressions and so presents to us many appearances. A thing may show a certain colour in gas or candle light, and common sense say that this is not its real colour. An object may feel hot to the touch and yet be said to be really only lukewarm. A thing when seen in perspective appears small, but we are said not to "see its real size"; and it is assumed that there are conditions under which the thing would "look its size." Is there any assignable characteristic which in such cases selects one from among the many

appearances of an entity and signalises it to common sense as the reality, of which the rest are the seeming, and from a knowledge of which the rest are to be expected in certain circumstances? What elevates one of the appearances from amongst its neighbours to the dignity of reality? The particular answer to this question with which I have been impressed is that which represents the "real" appearance as *the container, of which the others are the content*, and which endeavours to take the view quite seriously and literally.

3. The most impressive illustration of the principle, to me, comes from that very familiar class of varying appearances consisting in the varying sizes and shapes which a visual object assumes when placed in varying perspectives. What is the criterion of the reality or unreality of any one of those appearances? If I am getting a foreshortened view, say, of a cathedral front, common sense will tell me that I cannot see its real size. I must go round till it is straight before me. Why? The reason would seem to be that there I can see all the size it can present—its *containing* size. As I turn a foreshortened object round, it grows bigger and bigger till it reaches full stretch; and then it grows smaller and smaller. Of all the sizes it appears to have, the middle one contains the others; and it is selected as the real. In the matter of shape, the same holds. If I raise a flat circular plate in my two hands almost to the level of my eyes, keeping it horizontal, its upper surface will appear to me a very narrow ellipse. If I then gradually turn the disc round towards the vertical position, and past it towards the horizontal again, the ellipse gradually broadens until it is a circle, and then begins again to grow narrow. When I see it circular, "Then," common sense would say, "you see its real shape." We take the ellipses as the deceptive appearances of the circle; we do not take the circle and all the rest of the ellipses as the deceptive appearances of one selected ellipse. Although, if the disc were "really" an ellipse, then the circular shape which in a certain

perspective it could present, and many of its elliptical ones, would be taken as appearances, and one particular elliptical shape as real. What impresses me here, again, is that the "real" appearance is that which is able to contain the rest. A square may seem any number of different rectangles and parallelograms of all varying forms and areas according as it is turned; but the "real" size and form is that which it assumes when at full stretch or that which contains all the others, the square; and the same can be shown of rectangle, triangle, polygon, or any irregular figure.

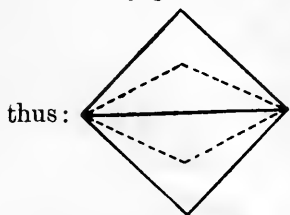
Without claiming, then, that common sense is clearly aware of this "containing" character of the real in the matter of form and size, or that it is ever consciously on the look-out for it, I feel that we are entitled to take the appearance in which this feature is present as the one which, in such cases, is in fact selected by common sense and distinguished as the real. The *containing* appearance is the one which succeeds in being acknowledged as reality. Common sense succumbs to quantity. It avows the greatest as its "real."

4. It seems, then, that the possibility of arriving at a principle of distinction between real and apparent on these lines is fairly clear so far as concerns the shape and size of visible surfaces at a given distance. Is it evident from any other quarter? One's first answer is no. Even within the sphere of geometrical fact, of which we have so far been speaking, there are circumstances in which the principle seems to be upset.

It is true that the *area* of a square is capable of containing the *area* of any figure which the square can appear to make in perspective. But what of the angles? If the square is turned around itself, by our using two diagonally opposite corners as pivots, all the angles seem to vary. Does the real angle, in this case, always *contain* all the apparent ones? At the two pivots the apparent magnitudes do all fall within the "real" one; but at the two other corners the real magnitude, instead of marking

the maximum which the appearances reach, marks the minimum to which they fall. The appearances in this case vary between a right angle and two right angles. So that by making the axis first the one diagonal and then the other, we can make every angle of the square vary between nothing and 180° ; which leaves the "real" angle of 90° at neither extreme, but in the middle. If we treated the revolving disc in the same way, we should reach a similar relation between the real and the apparent curvature of the circumference; while if we treated similarly any non-rectangular figure with straight boundaries, or again any ellipse, we should find that the real angle or curve was not even midway between the extreme appearances.

But let us look more closely at this point—returning to the case of the square revolving on one pair of diagonally opposite corners and showing the angles at the two other corners widening as it turns. Is there no simple, straightforward sense in which the right angle there does seem as though it could span, and so contain, all those apparent wider ones? True, when the square is tilted the angle seen is greater; but the lines containing it are shorter, and if the square were halved along its diagonal they could easily go into the half and still make the angle they do—



thus:

In other words, the apparent parallelo-

gram would always go into the real square and so the big angle seems to go inside the small one. From the group of competing appearances, that which common sense singles out as the real still seems to be the container.

In these cases at least, then, the following principle seems to hold: that *on the occasions when, out of a group of competing appearances, one recommends itself plainly to common sense as the reality, it is the one which contains the others.* And we can

make this further point, the importance of which will come out later in the discussion, that *the containing appearance is in every instance the smallest that could possibly contain all the others*. All the ellipses made by any circle could not possibly be packed into smaller space than the circle; and the same holds of all the other figures. We might put it, perhaps, that the most economical containing appearance is the reality.

5. Now the impression to which I am yielding in drawing the thoughts in this paper together at all, is the impression that in the foregoing simple considerations we may have in its crudest form the fundamental principle by which we may everywhere distinguish, from our own analytical point of view, those things which succeed in convincing common sense that they are real, from those which fail to do so. The question for further inquiry would be, how is reality related to appearance in the case of qualities other than those shapes and magnitudes which we have so far considered? How is it, for instance, with the "real size" of things seen at a distance? How is it with the "real temperature" of an object hot to the one hand and cold to the other? or the "real colour" of an object which looks different in different lights? How about an appearance due to pathological conditions? Or, finally, how about the presentational stream which the mind constantly discards as the "mere appearance" of something which it reads off as substantial and causal? Can we say, in these further cases, that what is identified by common sense as real *contains* the rest of what it sees? We do not propose to take up all of these questions here. But plainly, none of them can be answered if there is any uncertainty as to what "containing" means.

B.

6. What is the essential element in the notion of one thing containing another? Mathematics has a definition to offer of what is meant by the phrase "greater than." But that account

seems to be constructed rather with a view to the exigencies of mathematical manipulation than with a view to elucidating common-sense usage. I do not find that either the view that one magnitude is greater than another when part of one equals the whole of the other, or the improvement upon this which is achieved by use of the conception of one-one relations, helps us in the particular inquiry which we are pursuing. Our question is simply: What is the containing magnitude to the contents under it, that ordinary apprehension should distinguish it from them as their container? The answer I would venture is this: *the containing magnitude is to the contents, that which gives us power over them.*

The whole is the summing-up of the parts, the limit they cannot pass, the envelope through which they cannot break. The whole is to them that which hands them over and gives them away to us when we once master it. The number which contains the lower numbers, the line which contains the segments, the area which contains the lesser areas, is that in laying hold of which you take summary possession of all the rest. That is the meaning of their being "within" it. Four includes three, and it includes two, and it includes one. Why? Because if you have the first you have any of the others.

Is this feature of power or control susceptible of further specification? In what specific way does the whole give mastery of the parts? Every part can "get into" the whole. By professing itself a part it proclaims that it is "within" the whole. What sort of putting of itself into our power, then, has it perpetrated by thus saying to us that it is a part?

The heart of the matter, as I see it, is this: the new purchase which it gives us over itself is due to a new facility of transition of thought—a making of itself more accessible to our attention. The container, as distinct from the contents, is that vantage-ground which, once seized, clears a path for thought to the contents, and makes the transition

to them rapid, certain, and easy, and *so* puts them in our power. We might put it that the thought of the one puts the others in reach of our thought. Nor is it remarkable that the transition to the contents should thus be rendered secure and easy, once thought has seized the whole within which they fall. In the act of reaching the outer containing limit, the mind has implicitly summarised the content; it has rapidly "run it over," and so gained summary possession of it. The transition back from the whole to the parts is easy, because the mind is then only returning on something it has already touched. To see a larger magnitude acting as container of all the parts and fractions which fall within it, is to have laid hold, in thought, of the natural beginning of the transition to them all. It is to have seized the group in such a way that every member of it is within call. If I wanted a name for this power-conferring nature of the whole (and one does want a name for it, if the principle of distinction between real and apparent is to be applied beyond the simple examples which we have so far considered) I should speak of its focal character, its centrality. I should sum up the whole analysis of containing by saying that *a containing limit contains in virtue of the fact that the thought of it is focal to the thought of all its contents.* The container and all its component fractions make a group of things, each of which you can think of. You can think of the whole, and of a piece equivalent to four-fifths of it, and of another which is half, and of a third, and of any fraction. You can think of a group made up of it and all its fractions together—a more or less numerous group according to the stretch of your imagination and of your thinking capacity. But there is a character in one member of the group, the container itself, in virtue of which the thought which begins from it can pass back and forth, to and from all the others with a minimum of difficulty or obstruction. This focal character is what, in the last resort, throws all the other members of the group back into this one, and makes it contain them.

C.

7. We have now endeavoured to analyse the quantitative relation of whole and part. Our contention is that a quantitative whole is related organically to everything that can be called a part of it. The relationship in virtue of which to have one specific member of a certain infinite group in our mental grasp is virtually to have all the others—this is what in the last resort makes that member the whole and all the others parts of it. Take a quantitative whole and any number of parts together as a group: its relation to them will be found to be organic.

Let us return now to questions of appearance and reality. Think of the judging of the sizes of things at a distance, and of what we call “seeing an object its real size.” We shall find that this “real” size, as far as it is anything, is that which is focal to, and so acts as container to, all the sizes.

The apparent size of an object diminishes as it recedes, And as it recedes it passes through a vaguely defined zone within which, as compared with the extremes of nearness and remoteness, it could be said in a common-sense way to be seen “the size that it really is.” Now our question is not exactly how common sense comes at this “real size.” It may come at it in a different way in every different instance. We may suddenly become able to judge the size of a steeple clock in the distance by seeing a man sitting on the hands. The question is rather what the “real” size is, which we do come at. And I think it is in the first instance a certain average appearance which the thing wears at what might be called ordinary practical distances from it—the distances, *e.g.*, which would influence the architect in determining the scale of the sizes for the clock. And I think further that this vaguely conceived central appearance is *focal* to all the other appearances, in the sense above suggested. It is the containing limit

which focusses into itself all the sizes which the object would present at all the distances at which it might be seen. The containing limit need not be spatially the widest, or even the exactly measured mean between that and the smallest. It need not, indeed it cannot, be anything very definite. But it must be the size in which the whole group of appearances can be vaguely felt focussed.

We say "the size in which the group can be felt to be focussed." What is the "group" referred to? It is similar to the group made up of the whole and the parts, in the above discussion. It is the mere aggregate of all the appearances. Its composition depends partly on the number of points there are, by being seen from which the object will present different apparent sizes. Suppose the object could present x different apparent sizes. At least x different appearances will then have to be gathered into the "real" if our principle is to be true. But more than that: each of these appearances is many times presented. Not only the number of points from which the object might be seen has to be taken into account, but the number of times it is seen from each. For objects of a particular size there are certain natural distances from the eye to them, distances between nil and the distance at which they are lost to view—distances at which our eye naturally takes them in. They are actually seen at these distances much more frequently than at the extreme distance. Which secures that the group of which we are speaking—the group of appearances which have to be focussed into one containing appearance—shall be swollen with a much larger contribution from these "between" points than from either the extremely distant or the extremely near? The "real size," then, is that vaguely defined one appearance into which we can telescope all the rest of the appearances; but the higher frequency of such appearances as an object presents, during the occasions when we have practically to do with it, constitutes these the bulk of the group; so that that which best gives

power over, or focusses, or is organic to, them, will be most likely to give power over the whole—the container of them is container to the group.

8. To attempt to apply such a principle as this at all exhaustively would lead very far afield. But the question which such an effort would always be trying to answer is clear. It would be seeking to determine how far the unsophisticated mind, in its search for the reality of a thing, is seeking for a focus containing all that the thing can seem to be. This is the main point. If the “thing” in question happens to be “space” or “substance” or the object of any such basal category of thought, the investigation must become subtle. In what follows we shall be touching upon such matters. It will help the reader to overcome the subtlety, especially it will help him to detect any false subtlety which may creep into the argument, if in reading what follows he will keep the main point before him. Does the unsophisticated mind, in seeking for reality, unconsciously seek for a focus containing all that the reality can seem to be? Man seeks what is. Does his “feeling satisfied that he has found it” synchronise with his striking something in the literal sense inclusive of all that it [“what is”] can present itself to him as being?

9. From a consideration of variations in size-appearances due to distance, the natural course of the argument would lead us next to consider the varying appearances of other characteristics of things, which common sense contrasts with their reality. But here we are held up by a seeming discrepancy. We seem about to treat as the same, cases which are not at all parallel.

Between the apparent and the real visible shape or size of objects on the one hand, and on the other, changes in, say, tactual quality, the lack of parallelism may be more evident than any parallelism. Take, for instance, the gradually decreasing temperature of a basin of hot water from minute to minute. Common sense would not fix upon *any* of these

temperatures, however roughly, as the "real" temperature, and contrast it in this respect with all the others; as it does roughly fix upon one stage of, say, a receding object as showing us its "real size," or one view of a turning surface as showing its "real shape." It says the water is "hot," is "lukewarm," is "cold," at successive intervals; whereas it would never say, this penny is "circular now," is "elliptical now," is "a straight line now," as it is gradually turned over.

But we only need to look a little more closely to see that this discrepancy need not arrest our argument. For as between the turning disc and *the water at any given moment* the parallelism, from the point of view of our discussion, is precise. At any one moment common sense is quite capable of saying that the water is "really lukewarm," though it feels hot to the one hand and cold to the other. And by conferring this distinction upon the "lukewarm" appearance, it is again centralising all the other appearances within their containing conception.

"Lukewarm," of course, means nothing scientifically precise. It certainly does not mean a spatial magnitude which has "warm" and "cold" and other degrees of temperature as lesser magnitudes within it. But it does represent what would be, in this instance, the central mass of human testimony regarding the heat quality of the water; it hits off a certain appearance which gathers into itself the vast majority of apparent temperatures which the water would present at the moment in question—very extreme appearances being counter-balanced by their infrequency. It fixes also the point from which it would be easiest to reach the whole mass of such testimony—the point from which the combined divergence of all the individual testimonies would aggregate least. And any succession of "real" qualities, as distinguished from "seeming" ones, in a changing object would each contain its group of derivative appearances in the same way. A succession of different appearances may be recognised as each real at the time. In

that case the object is recognised as a new object, a new subject-matter for reflection, each time; and as being susceptible of true as distinct from false characterisation. The act of characterisation itself remains what we have seen it to be. It is a process of getting the competitive appearances into a group, and selecting what contains them all as the reality. There is thus no real difficulty in the way of our holding, in the sense in which I think it is intended, the view that all the appearances which an object presents to us are real. All that is needed is that we take note of how common sense, whatever one of an object's apparent characteristics it ascribes to the object, thinks of this characteristic as one which the object "really has," as against possible erroneous views on the matter. What interests us at present is the character of this true appearance as contrasted with the possible others over which it takes the precedence. And I think that it contains the others, in the primitive and fundamental, that is to say the qualitative, sense of that word.

10. The mention of real change introduces us to a still more important distinction of appearance from reality to which our principle should have some application if it be true. It is a distinction, it is true, which lies far beneath the surface of common sense, and one which is very far indeed from being explicitly and consciously made, but it is one which, I think, we are bound to assume *is* made, since it enters into the very constitution of our common-sense world. I refer to the way in which *substance* might appear to be, but yet is not mistaken for, *change*; that which by its nature persists, might be confused with, but yet is not confused with, *that which succeeds another*.

The need for distinguishing appearance from reality in this connection arises from the fact that so much of what we say co-exists or endures together, is given to us successively. The earth and the pole star, the two sides of the shield, are never seen together but always successively. How then are they said

to co-exist? Why does common sense never for a moment delay over this given appearance, but instinctively and instantaneously translate it into the co-endurance of the two things successively seen? How, in other words, is permanence elicited out of lapse, or space out of time? Or perhaps better: What is the permanence (which lapse sometimes "really" is) to the lapse? What is the space which the temporal sometimes "really" is to the temporal? As contrasted with the latter (whichever way you put the question) the former ought to be in some sense the adequate container of the appearances given as the latter. The permanent or spatial ought to be that which adequately *contains* the appearances given as lapse or temporal. Is it so?

To return for a moment to a former illustration. As the round disc is being turned from the horizontal position to the vertical, it presents a series of shapes to our view, all of which fall within one, that one being its real figure. We pointed out a feature of this "real" which we said would come to be found important, namely, that besides containing all the appearances, it was *the least* that could contain them. It is in connection with the question: "How does it come that co-existence is not mere succession?" or, what I think is the same point, the question "How do *things* arise?" that the importance of the feature referred to comes out. So far as I can see, the making of the successive co-existent, *i.e.*, the reading of succession as co-existence, or, on the other hand, the leaving of succession successive, is a matter of gathering impressions up into *the most economical containing form* which will hold them all.

I think perhaps that there are two questions involved. At least it is possible, upon a close enough analysis, to take that view. It is a matter of things which undoubtedly appear successively being confidently assumed to co-exist in space and co-endure together. We may distinguish, on the one hand, the problem as to how the appearances come to be even

successive, how they are got into time; and, on the other hand, the question how these timed appearances get to the status of co-existence in space. But the former hardly seems to be a question susceptible of answer. The ultimate truth seems to be that appearances do occur in time. The past does gather itself up before us and continue itself into the present, so that we are from the first the recipients of impressions in a time order, and are creatures who can look before and after. Such seems to be the ultimate nature of our own being and of the world in which we find ourselves.

But the impressions thus timed come to be spread out in space. I first see this, then that part of an object in space; but all the parts which I thus successively see co-exist. The question, then, is: What has come over them when that has happened? What has the mind done with them? Or rather, since the mind does nothing except adjust itself so as to see them, what have they done with themselves, that they present themselves now as contemporaneously occupying space?

The best hope of an answer, perhaps, will be in placing the two kinds of series—that which is read off as co-existence, and that which continues to be regarded as successive—side by side in as clear an example as possible. Let me suppose, then, a coin, lying where I can notice it. In looking at it from time to time, I get not one but a series of impressions. Intervals may occur when I am not looking; and even when I am looking continuously my attention fluctuates both in direction and in intensity. I need not see the same spot always. Attention may play about the centre, rest on the side, follow round the rim, etc. Similarly I am seeing it sometimes as blurred, sometimes as clearly articulated, etc. These impressions, then, are a series, past members of which I carry forward into the present and so find in time. The first question is as to the relation between this series and

the series of views which I get of the coin turning, which I interpret as real, successive movements. .

Let us imagine, then, the coin gradually turned vertical, and for clearness' sake let it be magnified to the size of a house. A haphazard series of views begins whenever I notice the thing lying—my attention darting from point to point all over the surface. From the moment the raising-process commences, there cuts into that series another, which goes forward in continuous fashion. This latter series continues until the thing reaches the vertical position and moves no further. After that the haphazard series goes on alone until, perhaps, I cut it short by shutting my eyes. Describing the process, then, from the moment when the raising movement starts, we should say that first an ellipse appears, then broader ellipses, till full circle comes and movement stops. But while the continuous changes which constitute the movement stop, the kaleidoscopic changes of view which I am getting of the surface, as my eye roams from point to point in it, do not stop until I turn away.

Keeping this description of the total change which disports itself before me well in view, observation would seem to warrant this principle: that when the two series go on together before me, I say I see change; and when only one (the haphazard one), I say I see something substantial—I see permanent, qualified and related substance. But since it is ultimately a succession which presents itself to me as *both* change and substance, the question only becomes the more pointed: Why do I not confuse that with either? Why, especially, don't I confuse the given succession with real change? Why, when I cast my eyes around a room, is it not the room that is revolving round me? Why, when I glance down a tree from top to bottom, is it not the tree that is soaring up? Why should I not even mistake real change for permanence, and so, when I see an apple disengage itself from the topmost twig and fall to the ground, think I see a vertical string of fruit extending all the way down?

For help in a matter like this, one turns naturally to Kant. But in doing so I should say once more that the "why" in the above questions, in as far as it seems to ask for a psychological analysis, is misleading. Such an analysis, very imperfectly done, is all, I think, that Kant gives us on the point. He rather attempts to show how a certain process is carried out, than tells us what is done by it. Yet, imperfect as it is, Kant's account seems to me an indispensable starting point.

What distinguishes change which is objective from that whose succession is subjective only, and which objectively is still? To adapt Kant's own example; when, casting my eye up the river, I slowly scan a line of stationary boats, how do I know that it is not the boats which have sailed away down? Because, by casting my eye down the line again, I can bring them all back. It is impossible that the boats should flit to and fro with the glance of my eye, that the stable world should spin about the individual, and the stars reel in their courses because Tamerlane is drunk. The series of changes is real, then, when it comes in a definite order and imposes itself on my apprehension. If there is an order in the successive sails which I cannot reverse, then the line itself is moving; if it is an order which I can reverse at will, then the things I see co-exist, and whatever sequence there is, is, in Kant's language, a sequence in my apprehension.

This concerns the translation of mere succession into objective change. No doubt, more psychical machinery goes to the translation of succession into co-existence than Kant makes any mention of—more, perhaps, than has ever been satisfactorily sorted out and presented to us. The point of chief interest to us is the issue of the latter process. What is done by it all, that we should emerge with a distinction which runs through our entire known world, and without making which we could hardly take a step towards knowing the world?

I repeat, that when I ask this question resolutely—the question what is done when that which is given as successive is

read off in another way?—the only satisfactory answer that I can find is that appearances are added, or placed inside each other. The real, whether it be change or whether it be substance, seems again to be that in which they are all most economically contained. *Objective succession could not hold or contain all the appearances which are rightly construed as co-existence; and such succession is enough to contain those that are rightly construed as objectively successive.* And I feel sure that such a statement is not a mere juggling with terms. If it seems to be so, the reason, I take it, is simply that having, in the course of this effort to come at the principle of distinction between co-existence and succession, been led into the presence of a fact which is ultimate and therefore is mysterious, we are trying to accept it. We are led to some such fact, I think, whenever we look squarely at the two features of our world with which we are at present trying to deal.

Co-existent things, it seems to me, are essentially things which can be encountered “again”; the merely successive is what cannot be. Now this property of *being able to present the same thing twice* seems to me to be an ultimate (however mysterious) characteristic of the world with which we have to do. My interpretation of substance or permanence involves the following principle. Appearances—*certain* appearances—can be successively added to each other and yet so entirely coincide with each other that they wholly disappear into each other; so that any number of them becomes quite the same as one. It is as though they had been a number of exactly equal surfaces of perfect transparency and no thickness, superposed on one another. Thus, while *prima facie* all appearances are successive and each of them one, those successive appearances which are rightly to be read as co-existence are each as it were an infinite pile of exact similars *seen as* one. Hence it comes that there are series of appearances which the appearance “a real succession” is not enough to contain. The appearance

"a substance with co-existing parts" is the least that can contain them.

If a stone is lying at my feet, I shall see it if I look at it; and if I look at it again I shall see it again. This is what is meant by saying that the thing endures. But all the indefinite number of visions I may get must somehow coalesce into one; for this one stone is all that I see. Seeing it as permanent or as a substance—applying that category to it, if anyone cares to put it so—is my way of recognising the indefinite possible pile which it is all in one. What, on the other hand, is our seeing the thing change? It is our way of recognising a number of appearances, each of which is proximately one only. I do not say that anything ever merely changes; or that we could know it, if it did. In our turning coin, the series construed as change had to have the series construed as substance, go on along with it: it had to be change *of* a substance, in other words, if it was to be change at all. But in so far as we do construe a succession as genuine change, we take each one successive appearance as one only. The same holds of all the object's permanent qualities—its heaviness, hardness, coldness, etc. Every time, when I mean that the object permanently "is" so and so, I imply an infinite number of possible repetitions of a certain experience; in other words, an infinite number of appearances all together, yet all so transparent that they indistinguishably coalesce. It may be that these can be separated and spread out. But to recognise them as so spread out is to recognise change. It is to turn attention from the permanent object—the stone—to a changing one, my mind; and to take note of some of the events which make its history. Or else it is to see the stone itself as undergoing change. And so our segregation of the world into substance and change—or our finding it so segregated, to be more accurate—is once more a matter of appearances accumulating themselves into the smallest compass possible. The time order is too restricted for the appearances which we find ourselves com-

pelled to read as things in space, and the space order is far wider than is needed for those appearances which we read as changes in time.

To summarise the position reached in this paragraph: the immediately given is given as successive, and Kant has shown us when a succession is to be read as objective change. We take it as objective change when we find it irreversible at will. But our question was: what has taken place, now that the given is "objective," whether it be objective change or permanent objective substance? Our view is that appearances have been aggregated. An aggregation which forms part of a substance is the coalescence of an infinitude of similars into one. An aggregation which forms a moment in an objective change is the coalescence of a limited number of similars into one. Finally, the moment of a mere succession, so far as there can be such, is an appearance which is just one or is just itself, not an aggregation at all.

D.

11. These general considerations seem to favour a certain view of the world—the view that if the common-sense attitude is to be really respected and properly interpreted, the real cannot consist in a certain selection of the things which present themselves to us—the real is all the appearances there ever anywhere are, or can be. This, because of a fact which we mentioned at the very beginning of our discussion, namely, that the real was the contain-*ing* appearance; not the container alone, but the container together with all that it contains. One of the important points about this view of the world, I take to be the comment which it makes upon our efforts to reach the real by way of science; and, ultimately, upon our efforts to reach the real fully by way of knowledge at all. It seems, as regards the former, to have something to say in justification of our endeavour to reach reality by this method, and also in the way of pointing out somewhat severely the limits of our success.

First, as to the view itself: the real, we say, or that whereby common sense is so fascinated as to call it real, is not certain selected appearances only. It is these together with all they can contain. Not, as we might put it, something we see occasionally only, but something which includes all we have ever seen or can possibly ever see. It is true, common sense is far from being aware of this character in its real. By it the container is often distinguished very sharply indeed from the appearances which, on our view, are its content. The habit is in a way inevitable. Common sense is a search for reality. This endeavour to adjust itself to realities and guard against being misled by appearances is so much of the essence of man's struggle with the world that it inevitably throws the mind back upon the most elementary distinction that it knows, the distinction of yea and nay. What the common mind encounters is real, and it meets it with a yea; or it is not, and it meets it with a nay: if the former, not the latter; if the latter, then not the former. The distinction is sharp just because the issue is important. Yet, I contend, whatever succeeds in convincing common sense that it is real has in it somewhere this containing or concrete character. It contains what it "is not." What the real (after the emphatic manner of common sense) "is not" is still felt to qualify the real. I take it that, for instance, the roundness ascribed to the coin is not the bare circle, but the circle *as including all its usual modifications* in a confused and composite whole. I think that the "real height" of the tower includes the deceptive diminutive figure which it cuts on the distant horizon. The real "is not" an ellipse, in the case of our coin; it "is not" a mere speck, in the case of the distant tower. But in both cases, for common sense, *it can really seem so*. And the only sense that this familiar form of words can bear, the real feature, is that "round," "tall," etc., are weighted with all that the various common conditions can make the round or tall object seem. Thus, common sense, looking at the speck in the distance, will say "See yonder tall tree," or looking

at an ellipse will say "That is round." Every "real" is enriched with what it may appear to be.

It could hardly be otherwise. It would be fatal for common sense to drop out these references. It dare not be content with what it calls the reality and nothing else, rejecting all the appearances; in view of its initial effort to make itself at home in the world. The various appearances which a thing can wear are part of its behaviour. These are what common sense was to learn to anticipate. Its business in the world was to learn what to expect of this and what else to expect of that. Such was the meaning of being in touch with reality. But appearances cannot be expected, if they are simply dropped out of the reckoning. And so, ideally, they are never dropped. There is an implicit reference to them. True, the round coin is not oval—most emphatically. Yet to see the meaning of "round" you have to handle the penny. You have to turn it up and down and back and forward, and in one way or another spread out all its appearances and take them all in, within the real, the container of them. We can say further that all this content is articulated the better, within the containing whole, the more clear and living the mind is. And in all cases where mind knows, the appearances must be so far there that they do not take the mind by surprise when they appear on the thing. It is this preservation of the content *in* the container which makes the concreteness of common sense.

How does this general view bear upon science? To put it summarily, common sense has in it a tendency to lose its concreteness. Science encourages it to do so infinitely further; and in so doing it at once brings common sense nearer to reality and hides reality more effectively from it.

Being in touch with reality, in the broadest sense of the words, means knowing what to expect. We have, in the last paragraph but one, touched upon one condition of such knowledge, and one which unsophisticated common sense tolerably well fulfils. It is that all the appearances which a thing may wear are seen

gathered up into the thing, as it is to the mind contemplating it. The real thing must be the containing appearance seen as containing; and so far as common sense is clear, its things do present themselves to it so. This is due, in the last resort, to that healthy pluralism which characterises the ordinary mind. So long as the world is full enough of generically different things, the number of appearances which each may present remains moderately within bounds; and common sense can make something of the task of taking the constitutive appearances *into* the reality, when it grasps the reality. This pluralism, which construes the whole choir of heaven and furniture of earth as a host of different individual things, keeps its world concrete, and saves it from forgetting all the appearances which a thing may wear, in the act of grasping its reality and giving it its name.

Yet this healthy concreteness, condition though it is of being in tune with the world, is a feature which common sense tends to give up as its quest for the real advances. For it is only *one* condition of getting to expect rightly. The other is *the fixing upon the proper things of which to entertain expectations*. And it is vain to hope to expect rightly so long as you continue to expect things of those thousand and one isolated realities, with whose possibilities, *qua* isolated, common sense is at first so familiar. You expect rightly only when you know, not only what to expect, but *of what to expect it*. Fix your attention, for instance, on the isolated phenomena of the heavens, as common sense immediately sees them, and you don't find yourself able to anticipate anything worth anticipating. But focus attention upon the Copernican system and expect things of that, and you become at home in the world. Common sense, then, has not only to retain as clearly and imaginatively as it can the appearances which this and the other real thing may be expected to present. It has to expect from the proper quarter. *It has constantly to dissolve its "things" into appearances which greater "things" occasionally*

wear. And just because the new "things" are so much greater, their appearances are infinitely more numerous and varied, and no imagination can even approximately keep them all before it as the reality is being contemplated, referred to, and named.

This is at once the criticism and the justification of science as a way of showing ourselves what really is. There are the two points: In the quest for reality we may keep our eye on common-sense things, or on the larger facts with which science deals. Keeping our eye on the former, we are given a comparatively narrow (and so far ineffective) range of clear expectation. Keeping our eye on the latter, we are given an infinitely wider range of expectation, which in consequence we cannot hold all before our minds at once, except by proxy, in the form of abstract conceptions. The very conditions of our life make it necessary for us to advance from the point where the things of common sense form our realities nearer the point of view of science, where fewer but infinitely more comprehensive realities are dealt with. But this advance is at a cost. The reality *of* these latter realities is still only what they comprehend or comprise. And the condition of our laying hold of them at all, is our totally losing sight of the vastly greater part of that comprehended content.

At the risk of becoming wearisome I should like to insist on this point. Confine our view of the heavens to what the untrained eye meets there, and we only grope our way helplessly from point to point without the least feeling of effectiveness or security. Whenever a planet is seen, however, not as this individual "star" only, but as this particular member of the solar system, and the system itself in turn as this particular outlier of any such vaster stellar system as trained faculty has been able to discern, then the mind takes possession of its vast inheritance, and walks about it with a sense of mastery. Any one portion of the whole has become pregnant with a thousand implications which it had not before. But then,

such implications as the object did have before were present in it, and were carried with it bodily before the mind whenever the mind grasped it. The very greatness of its new acquisition of significance, now, has made it incapable of presenting all that significance to the mind so that the mind may grasp the reality it has got. What common sense calls a round object carries the suggestion of the various false appearances to which that shape is liable, with it. But when the round object becomes in the scientific sense circular, all the new lore of radii and tangents and trigonometry which has gathered round it, only proclaims to the mind, with the same breath with which the vastness of the significance of scientific roundness is announced, the inability of the mind ever to possess that wealth of significance. Or, to take a homelier illustration, a child may become acquainted with the door-bell, learn that when it wags it sounds, and that when it sounds someone is at the door, and that someone is always the grocer, or the butcher, or the lady collector; and so he builds up the little system of his expectations of the world. When science comes in it alters a great deal. It proposes to disregard the bell and let attention be taken up with the much bigger facts of iron, of mechanical movement, of sound, of that whole economic structure of which the grocer's and the butcher's messengers are only the remotest outposts. By thus altering the centre of interest it gets upon the threads of a much larger system of expectations. It shows us what sound is. It puts us upon something which not only sounds in this bell, with this particular loudness, pitch, and timbre, but which sounds in all the bells and all the other sounding things, of whatever loudness, pitch, or timbre, which anywhere are. It shows the sound of the bell, in a word, as a particular manifestation of something infinitely vaster—a something which sounds wherever it is, and is wherever there is sound. On this, if you really mastered it, you could build up a system of expectations which would put you in possession of the whole sounding universe. Science,

when it asks, about any of the real facts of which common sense is always touching the fringes, "What is it?", always replies with something which, could we enter into it, would present to us an appreciable proportion of the entire possible universe. To the question "What is sound?" it points out what always sounds. Similarly to "What is light?" it replies with what is always luminous; to "What is heat?" with what is always hot; and so on. But all this new hold upon the world, as we have said, is obtained at a price. Where half the world comes within our range of possible expectation, it is no longer possible vitally to expect it. It is impossible for us in any way really to seize all the manifestations, in and along with our grasp of what is to manifest itself. So that the great reality itself inevitably becomes less great than it is; reduces itself at last to that bare skeleton of itself which is capable of presentation in an abstract scientific system. We meanwhile, habituated to regarding what science deals with as the real, and yet forgetting the while that there is any more in it than this skeleton, learn to look upon the skeleton itself as the real, and so drift into that "night-view" of the world against which Fechner protested, the view for which all the music and colour of the world of sense has collapsed into the mere dead vibrations of soundless and colourless matter.

Thus science, while leading us further into reality, yet has by its very nature a way of holding us back from it. One condition of knowing what to expect, is the expecting it *of* the right things; and this condition science is an effort to fulfil, when it conducts us into the presence of such facts as we can expect far more of than we can expect of the isolated facts of common sense. But the other condition is the having what you expect, *in* what you expect it of; and by their very multitude the appearances of the scientific reality cannot be seen *in* the reality, and held there before the mind. The mind which could grasp the reality which science exposes, without in the very act losing hold of the appearances *of* which it is

the reality, would, indeed, be far more thoroughly *en rapport* with this part of the universe than any unscientific mind could possibly be. But the task would demand qualities of imagination entirely unthinkable to minds constituted as ours are.

12. But it seems of the last importance to be able to recognise that in this direction reality lies—in the direction, to put it hastily, of articulating scientific laws into the living detail of sense. Having attained the vantage-ground of science, it is important to see *whither further we should have to go* in order to find reality; so that we may use science properly when we try to use it as a means of seeing where or what reality is. The only way to make sure of doing so, it seems to me, is to do what we have been trying to do in this paper, viz., understand common sense. For there we have mind in its natural wholeness, before it has undergone that abnormal development of itself which science at bottom is. We have to go back and gather from the primitive, uncorrupted wholeness of mind the hints it can give us as to when reality is reached and when it is missed. So far as in the present discussion we have yet done this, we have emerged with at least this result, as regards the general nature of the real: we have gained some idea of how much of the real, all science leaves out. So much we have derived from our principle that the summing of appearances up and holding them together is what gives reality. But I think once we get to the root of that principle properly we shall get a new glimpse of how much even common sense itself leaves out, of *its* realities; and of how defective all knowledge whatever is, which is merely human; how much it leaves out, of what it yet assumes to be there and refers to. And the question is important. Because an adequate idea of *what our knowledge by its very nature leaves out* is practically our only way of gaining an idea of what there was, in all, to take in; or in other words, what kind of a thing the world in its entirety might be. I will conclude, then, by an endeavour to sketch some points which seem to be

involved in the process whereby the world gradually reveals itself to any knowing mind, apart from all question whether that mind be taking up a scientific attitude to it or not. I hope thereby to come to a closer and clearer understanding of our principle. And I anticipate as one result, which surely ought not to surprise us, the finding of an immense disproportion between the wealth of the world and anything that our minds can take in.

The first stage of that process of discovering the realities to which to address oneself, the process of acquiring common sense, would appear to be something of the nature of a drawing of the elementary distinction between substance and change. There may be something before that, but it is so elementary that we cannot think of its coming to be at all but only of its being, namely, time. The very earliest achievement of mind is probably some vague sense of flux. But almost coeval with this must be the beginning to feel part of the flux become permanent. Not so much that some things in it cease to pass; but rather that, while all pass, some become endlessly recoverable. The hand opens and closes alternately over something soft. The other hand passes and repasses over its rough surface. The eye sees white, again and again, as it adjusts itself in a certain way. And gradually there discloses itself, the soft, rough, white thing. The order is: first some sort of time-span, that everything may not just disappear; then the transition from events in time, through events delayed so that they can be recovered again and again indefinitely; to, finally, permanent things.

But this is only the beginning of the mind's long exploration of the world. We have no sooner begun to see a world of things and their changes, than we proceed to find it a world of *other* things and *other* changes than it seemed.

To express the matter so is perhaps to express too sharply what is at best very difficult to describe in an adequate way. But I seem to see indications that the process by which the world gradually reveals what it "really is" to the mind

beginning to read it, is in some way what our principle would lead us to expect—a learning to take as realities those “things” in which the mind can find the summing up of all the group of appearances connected with them ; and this works out in the way just stated. It works out as a progressive substitution for the things and changes first encountered in the world, things and changes in some way “other” than they.

The most debateable part of the position, perhaps, concerns the other *changes*. It is rather, I am afraid, that the whole feature of change tends to make way for something else in which it is taken up. We have seen how certain changes are read as substance because they can only be summed up as substance. They were a number of changing appearances, it will be recollected, each of which was potentially endless. This telescoping of an infinite number of successive appearances into one permanency indicates a general direction in which all changes alter, or become *other* than what they first encountered the mind as, or were given to the mind as. We do not say that all changes in the world become read as co-existence. That is going too far. But there is the tendency towards something resembling that. The world appears at first all succession ; and its reality seems to come out step by step as its changes become gathered up. This is the very process of knowledge as such. And in it we meet what we met with in science—a movement which divides us from the reality to which, in another way, it brings us nearer and nearer.

There is a tendency towards permanence in the succession *as* which (say) the whitewashed house which I see across the river is given to my sight. It contains the white colour, the outline, the doors, the windows, all the points and corners and features which I take in by successive glances. It contains these summed up, all at once. And its permanency consists in this, that I might with proper organs and conditions see all this as often as I cared to look. But the same *tendency* is in *all* succession. Such, at any rate, is the reading I feel compelled to take when I try to see how the world opens to our opening

intelligence. It opens by giving us greater and greater permanencies to deal with, in which further and further successions are gathered up—these being the new “things” which are substituted for the lesser “things” with which common sense begins.

The root of the matter seems to be repetibility. Any visible still object, given as a succession, is interpreted as persistent because it can be indefinitely repeated. Now, even when appearances given as a succession are left as a succession, *c.g.*, the successive positions of one turning coin, they show a tendency to be gathered up into something like a permanence. When examining the successive positions through which the coin passed, we saw that they formed an orderly, determined or continuous series which cut into another—the haphazard series of appearances which arose as our attention roamed arbitrarily from point to point about the surface. The one was genuinely a succession because each of its appearances was one. The other was gathered into co-existence because each of its appearances was infinitely repetible. But even the objective succession shows a tendency of the same kind. Not, indeed, in the same way, but still in some way, the successive positions too are repetible. I cannot repeat them, indeed, by an infinitesimal movement of my eye, nor perhaps can I repeat them in so entirely arbitrary an order, but I can repeat them. I can turn the coin with my fingers and get the series over again as often as I please. I cannot bring the ships up the river by glancing down their line. But if I really knew how they sailed away, then, with the proper conditions I could even bring them back. *The growth of knowledge*, to come at once to the point, *seems to turn more and more of those objective and determined successions into successions repetible at will*—it seems to turn more and more of those series whose members are each one, into series whose members are each an infinitely repetible number *in* one. And this growing repetibility—which is the old repetibility with a difference—spells permanence with a difference.

In perceiving a still object, then, what we have is a containing appearance—a reality—exercising a certain gathering function upon its subordinate manifestations and so binding them into a permanence. In the last paragraph we have seen that there does not need to be a still object before us, for this to happen. An object's successive appearances may also be presented by it and read by us as a permanence when the object is turning on itself. Now, the drift towards permanency extends much further. Not only may a permanence arise before us out of succession when an object turns upon itself, but a progressively greater permanence arises to us, as our minds become able to follow the object whilst taking progressively greater liberties with itself; when it takes to moving from place to place; when it takes to appearing in different places at the same time; and when it appears in different spots at different times. In other words, what are gradually revealing themselves to our intelligent view as our minds proceed from knowledge of what are usually (perhaps erroneously) called particulars to knowledge of greater and greater range of universality, *are really things, permanencies*—and these of vaster and vaster compass. And, we may repeat, these things by reason of their very vastness cannot have more than their fringes grasped by us.

Let an object move before us. Instead of letting our house (say) stay in its place, set it on wheels and send it careering across the country like a railway train. So long as I followed it with my eyes, it would attempt to collect all the environments it passed through, gather them up as it went along, and keep them. True, the attempt would be a feeble one, and I should be very far from seeing all the successive appearances in the reality. The successive views of itself which the object gave me in its successive settings would not all become one before me so effectively as when it was simply a house looking at me from the opposite shore and receiving my successive glances of attention. With an object on the move, the visible

setting changes. Hence the successive views we have of object and setting together, only coincide with one another over a small proportion of their totality. In seeing a train at a new place it is, roughly speaking, only the *train* that is the same as I saw before. I do not see the former *place*. The various settings do not coalesce and so combine into one containing appearance. Thus, while in a stationary object successive appearances are easily gathered up into a permanence, in a moving object they remain more persistently successive. Nevertheless, however faint it may be, there is a tendency towards the same syncretising which otherwise gave us the stable, stationary object. And that syncretion is what common sense refers to, and in words acknowledges as the reality, little as it is able to take it all in.

As the travelling object is followed by the eye it acquires the power of suggesting what it has travelled through. It gathers character as it comes along. Suppose for simplicity's sake that its whole journey is within view. We see it first here, then here, then here, until at its destination we name it "the train from so and so." We distinguish it by the place it came from and the route; plainly showing, I think, that the object has been acquiring character as it came along, or perhaps revealing its character. It carries with it all the stages of its journey. Limited as is our power to take them in, they are contained in the object that has moved. As it advanced, every new setting through which it passed helped to fill in the outline of what we ultimately take it to be and name it as. However much we retain, or however much we forget, the moving object has in it all that is revealed piecemeal in successive glimpses, just as the standing house has in it all its windows, doors, edges, points; *all* of which we do not take in at a glance either, though we more nearly do so than in the case we are considering, and so find it easier to regard them all as really in the real object. We acknowledge the presence of all this character in our object by this: that just as we said that was a house, so we say about

our train (telescoping the route into it) that is the "train from x ." We insist that it "really is" the train from x . This is what we actually have before our eyes and ears as we look and listen to the engine standing thudding in the station—although all our senses lay hold of, may be a hissing or a beating or an assemblage of shapes and colours. Our senses are not adequate to the world, but *the world is what would meet our senses if they were infinitely more capable than they are.*

And we call this syncretion, which common sense acknowledges as the reality, a kind of permanence; because as we come to know it we come to see it as possessing that indefinite repetibility which permanence is. This ability to see the appearances summed, at least spells knowledge. It is our getting all the appearances together so that none of them shall take us by surprise; the process whereby we become able to deal with the world and to take up the attitudes towards it which we want to take up. And I think it is also, fundamentally, a summing up of appearances *which we may have again and again.* This much seems to me to be in the nature of the case. I should not say that we can never claim to know what a thing is until we have found out how to make it as often as we please, at will—that, for instance, there remains a mystery about rubber so long as we cannot make it synthetically but can only obtain it by having it already, in the shape of a certain plant. Yet the very knowing of what really happens seems to me to involve a feeling that we could have it all again. It implies the possibility of the thing being met with innumerable times. To know what happens when the plant produces rubber is to suggest something that might have been seen happening by an indefinite number of minds or by the same mind an indefinite number of times. To return to our example: all the constituent appearances of the complex "the train from x " would show themselves again as often as the circumstances were repeated. And it is in being recognised as thus repetible that they are recognised as

what they are. The permanency "the train from x " is, as might be expected, different from the permanency "the house over the way"; because the repetition of the latter is to be had for the turning of your eyes, whereas the repetition of the former is a complicated matter, however great your knowledge of how it was all done. But there is an affinity between the two.

We have just attributed the difference of the sort of permanence a still object has from that which a moving one has to the greater difficulty of repetition in the latter case. This, however, is only one factor. Though we could send the train spinning back and forth by simply glancing down and up the line, the syncretising of the appearances would be a more difficult achievement in itself than the putting together and containing within one of the appearances which meet the eye as it turns again and again towards a still object. We pointed out that there is far less mere coincidence of one appearance with another in the case of the moving object. The successive appearances have all a far greater individual contribution to make to the totality, and are harder to combine. Now, plainly, this difficulty—due, in one word, to our being in presence of a far richer permanency than we had in the still object—is greatly increased if the object, besides moving, changes in itself. When we come to an object appearing in different points of space, and, again, in different spots at different times, this is what we have to deal with. And so the excess of the appearances in the reality gets to be so utterly in excess of what we can keep before us in these cases, that the temptation to think they are not in it at all, becomes correspondingly greater. Yet there is as little justification for that assumption as ever.

Within pretty wide limits, my successive views of a still object of any size, at about a natural distance from me, could all be different. Yet the object *has* all the parts I successively take in; for each of them is infinitely repeatable. This would still be true, we have seen (say the object is a house), if the

house moved. And it would still be true, I think, if the house both moved and altered into other kinds of house at different points. Plainly, the appearances are becoming now still harder to combine. Obviously, if the white cottage simply took up the *position* of the one beside it and then that of the one behind it, without changing shape or size or colour, it would not become so different from the original, it would not travel so far out of itself, as it would do, did it become each of these houses in turn; especially if they were very different kinds of house from itself. And by the time we imagine it becoming all the different houses that there are in the world or have ever been or will ever be, we can see how utterly it surpasses human power to combine all their settings into one or apprehend them adequately at all except they were taken piecemeal over an infinite length of time; and even then they would not be got in combination. Still, *some kind of concretion of the entirety of the appearances into one appearance*, strictly parallel to the concretion of the appearances revealed piecemeal of a stationary object, *must represent the real situation*. For, after all, everything within a certain vaguely fluctuating limit is called a house, be it cottage or mansion, shed or fort. And this sound or noise "house," just as it is not the symbol for the irregular black line which I have traced in writing the word, so it is not the symbol for that in which all houses are indiscernible and disappear into each other. On the contrary, that in which a house wherever it appears is exactly like all other houses, is but the intense *centre* of the completed appearance, and is itself but a symbol for that of which it is the centre. The reality is this centre together with all to which it acts as centre, the complete or containing appearance.

It is difficult to trace with any confidence the steps by which knowledge gains hold upon reality, and the foregoing sketch of some points involved in it is not even an attempt to indicate the course of such a process. But it is an attempt to

take the unsophisticated procedure of common sense in its humblest activities—those of knowing particular things of sense—and persistently carry it with us into more advanced stages in our knowing of the world. It is an attempt to take all our knowledge as a knowledge of presented fact, or of things, and to accept all the disproportion which such a view reveals between the vastness of the universe and the compass of what we know thereof. And it leaves us, as it seems to me, with at least this negative result—that our conceptual systems of science are not in any degree an expression for the living sense-coloured reality to which, in virtue of their derivation from the common-sense mind, they yet refer and with which they implicitly deal.

I should not like to think that this were the only result: else, I fear, the mountain has laboured that the mouse might be born. And in closing, conscious as I am that the argument has not defended equally well all the positions it has sought to take up, and that it may easily be much more obscure than I think it, I am tempted to make a final effort to summarise the points, and to end by boldly trying to indicate the more ultimate results to which this way of thinking has repeatedly, though very vaguely, seemed to me to point.

We began from the view that common sense can and does distinguish appearance from reality, and we embarked upon the question, How does it decide upon reality? To which question, by considering various cases in which the distinction was clearly made, we found this answer: that when a number of appearances presented themselves as real, that one *was* real which contained the others.

In course of testing the validity of this principle, we tried to find whether appearances could be said to be the content of reality elsewhere than in those cases where it seemed to be clearly so, and we were driven in consequence to try to see what “content” was—what was the meaning of “containing” and “contained.”

The latter question, when we got close to it, came to this: that if we take the containing magnitude on the one hand, and all that it could be said to contain on the other, and look upon them as spread out, as it were, in a scattered group; and then ask narrowly what there is in one member of this group which makes it deserve the distinction of being called the container of all the others, we find its quantitative pre-eminence to be at bottom a qualitative relation which it bears to them, namely, its ability so to focus them into a unity that the thought which grasps it, at once grasps them. To put it otherwise, number seems to be originally a quality, and when we get back to the quality which it is and which it originally presents itself as, we shall find the so-called quantitative categories carry us much farther in the interpretation of the world than we often think them capable of doing. Our own immediate application of this view was to the distinction of reality from appearance in the matter of the sizes things assume at various distances, and in the matter of the quality which a changing object has at a given moment.

But the most important application of this distinction (quantitative if you care to call it so) between reality and appearance, is in connection with that universally recurring case where the reality is substance and the appearance change, where the really co-existent appears successive. It resolves itself into the question: "What have the successive appearances done with themselves that they should compel us to read them now as a permanent object with co-existent parts? How does succession become co-existence?" or, what I think is at bottom the same question: "How does the temporal become spatial?" Time is, of course, the fundamental matter. All we know is in time, the past is carried forward into the present, and, except it were so, we could not begin to know. But we do not, it seems to me, know only time, and the question is how we rise above it.

Fixing our attention steadily on the outside world—for

our whole effort is an effort to get back to common sense for a hint as to what reality is; and at that point of view everything that appears to us at all *confronts* us; it does not appear in our heads; the child has no ego. Fixing our attention, then, on the outside world, what we see there immediately is a succession. When is that succession read as a still object, and when does it continue to be read as a succession? Kant seems to hold that it is read as a still object when the succession can be repeated indefinitely at will, and as a succession when it imposes its order on us. To which our argument ultimately adds this remark: that if this is how permanence comes, then permanence seems to be in some sense the fate of all succession; for just in proportion as succession betrays its secret to us, as it shows us what it is, it seems to present itself as indefinitely repetible. To know what a succession really is, is, it appears, to know the conditions on which we may have it again as often as we please.

But more important than this drift of all change towards permanence which our argument ultimately makes out in this connection, is the more immediate result to which the teaching we have extracted from Kant drives us when we probe into it. We need to probe into it. For we want more than an account of the psychical process which leads us to say on the one hand "Here something persists," or on the other hand "Here something is changing." We wish to see what that psychical process, whatever it may be, ultimately effects. And our answer was that it sums up appearances to what (in each case) they come to. It finds their container. As we put it, a succession could not contain all the appearances construed as co-existence; and the reason was that a succession was a series of appearances each of which was one, while a permanence was a series of appearances each of which was an infinite number—each of the appearances, of things which co-exist, is infinitely repetible. The first way in which this result is important lies simply in its confirming our principle, revealing the construction of substance to us, as again a matter of containing appearances. But its chief importance

lies in the way in which, having done this, it lends additional sanction to the general view of the world to which the principle itself points.

We expressed the view primarily by saying that the real was literally the contain-*ing* appearance ; not the container apart from the content. We elaborated this view in the first instance by reference to science, showing how science turned our attention to more comprehensive containing appearances, to bigger facts—but how its habit of elision was correspondingly more serious, how it failed to show us the actual concrete content *in* the container, precisely because there was so much more of it. Whence the view that science at once took us closer to reality and cut us off more effectively from it. When science turns its attention from the ringing bell to the universal fact of sound, it used this particular noise to introduce us to a whole tract of the universe. But then we are only introduced to it as a child might be introduced to the Atlantic Ocean when it is taken to wet its feet on the coast of Galway. The thing is too big to be introduced to. We further elaborated the view by reference to the fact that not only science but all knowledge whatever introduces us to facts whose full compass we do not at all grasp, whenever it uses common nouns. We do verily, then, only creep along the fringes of reality. To encounter the real we must encounter it in sense ; and that is never possible except along its merest edges.

We thus seem to emerge with the result, however we may feel baulked by the problems of hallucination, illusion and error, that the real is not a few selected appearances only ; that everything that appears at all is real. So far as the foregoing considerations reach, the real means all that is, and “ what is ” includes all that it seems to be. In a word, all the appearances that there ever are, are real. Yet I believe that this conclusion, as simply stated, would have to be modified. We spoke at one point, of one of the mysteries of the world being this : that some appearances were repetible, that a thing could be met with twice, that this which I see now is literally and identically the thing

which I saw before, that an appearance could arise so exactly the same as a former one, that it coalesced with that former and wholly disappeared into it. There is some "identity of indiscernibles" at the root of the whole structure of things, whether Leibniz formulated it correctly or not. And it seems to warrant this modification of the view of the world just expressed: that everything which appears is real, *except what is indiscernible from and so identical with another*. Which would mean that any appearance makes a contribution at all to the present revealed totality of being only if it makes a *distinctive* contribution or effects a fresh articulation. So far as it simply repeats something again, its contribution is null. The endless repetition of similars is the addition of nothing. In proportion as our story of the universe degenerates into a story of "again and again and again," it ceases to represent any possible *real* universe. Or, putting this from the other side, the universe is, only in so far as it does not draw itself out into what I think those philosophers have meant who spoke of the "bad infinite." A bad infinity of things is just one thing. Each is swallowed up of the last. We have proper ground, I think, in the doctrine of "appearances as the content of reality," for repudiating that "unphilosophic attempt to numb the mind and baffle the imagination and the heart" with pictures of endless vistas of space and æons of time; we can accept all the disproportion we have seen, between the greatness of the world and the littleness of our minds, and yet with all humility repudiate *that*.

IV.—SPACE, TIME, AND RELATIVITY.

By A. N. WHITEHEAD.

FUNDAMENTAL Problems concerning space and time have been considered from the standpoints created by many different sciences. The object of this paper is the humble one of bringing some of these standpoints into relation with each other. This necessitates a very cursory treatment of each point of view.

Mathematical physicists have evolved their theory of relativity to explain the negative results of the Morley-Michelson experiment and of the Trouton experiment. Experimental psychologists have considered the evolution of spatial ideas from the crude sense-data of experience. Metaphysicians have considered the majestic uniformity of space and time, without beginning and without end, without boundaries, and without exception in the truths concerning them; all these qualities the more arresting to our attention, from the confused accidental nature of the empirical universe which is conditioned by them. Mathematicians have studied the axioms of geometry, and can now deduce all that is believed to be universally true of space and of time by the strictest logic from a limited number of assumptions.

These various lines of thought have been evolved with surprisingly little interconnection. Perhaps it is as well. The results of science are never quite true. By a healthy independence of thought perhaps we sometimes avoid adding other people's errors to our own. But there can be no doubt that the normal method of cross-fertilizing thought is by considering the same, or allied problems to our own, in the form which they assume in other sciences.

Here I do not propose to enter into a systematic study of these various chapters of science. I have neither the knowledge, nor the time.

First, let us take the ultimate basis of any theory of relativity. All space measurement is from stuff in space to stuff in space. The geometrical entities of empty space never appear. The only geometrical properties of which we have any direct knowledge are properties of those shifting, changeable appearances which we call things in space. It is the sun which is distant, and the ball which is round, and the lamp-posts which are in linear order. Wherever mankind may have got its idea of an infinite unchangeable space from, it is safe to say that it is not an immediate deliverance of direct observation.

There are two antagonistic philosophical ways of recognising this conclusion.

One is to affirm that space and time are conditions for sensible experience, that without projection into space and time sensible experience would not exist. Thus, although it may be true to say that our knowledge of space and time is given in experience, it is not true to say that it is deduced from experience in the same sense that the Law of Gravitation is so deduced. It is not deduced, because in the act of experiencing we are necessarily made aware of space as an infinite given whole, and of time as an unending uniform succession. This philosophical position is expressed by saying that space and time are *a priori* forms of sensibility.

The opposed philosophical method of dealing with the question is to affirm that our concepts of time and space are deductions from experience, in exactly the same way as the Law of Gravitation is such a deduction. If we form exact concepts of points, lines and surfaces, and of successive instants of time, and assume them to be related as expressed by the axioms of geometry and the axioms for time, then we find that we have framed a concept which, with all the

exactness of which our observations are capable, expresses the facts of experience.

These two philosophic positions are each designed to explain a certain difficulty. The *a priori* theory explains the absolute universality ascribed to the laws of space and time, a universality not ascribed to any deduction from experience. The experiential theory explains the derivation of the space-time concepts without introducing any other factors beyond those which are admittedly present in framing the other concepts of physical science.

But we have not yet done with the distinctions which in any discussion of space or time must essentially be kept in mind. Put aside the above question as to how these space-time concepts are related to experience—What are they when they are formed?

We may conceive of the points of space as self-subsistent entities which have the indefinable relation of being occupied by the ultimate stuff (matter, I will call it) which is there. Thus, to say that the sun is *there* (wherever it is) is to affirm the relation of occupation between the set of positive and negative electrons which we call the sun and a certain set of points, the points having an existence essentially independent of the sun. This is the absolute theory of space. The absolute theory is not popular just now, but it has very respectable authority on its side—Newton, for one—so treat it tenderly.

The other theory is associated with Leibniz. Our space concepts are concepts of relations between things in space. Thus there is no such entity as a self-subsistent point. A point is merely the name for some peculiarity of the relations between the matter which is, in common language, said to be in space.

It follows from the relative theory that a point should be definable in terms of the relations between material things. So far as I am aware, this outcome of the theory has escaped the notice of mathematicians, who have invariably assumed

the point as the ultimate starting ground of their reasoning. Many years ago I explained some types of ways in which we might achieve such a definition, and more recently have added some others. Similar explanations apply to time. Before the theories of space and time have been carried to a satisfactory conclusion on the relational basis, a long and careful scrutiny of the definitions of points of space and instants of time will have to be undertaken, and many ways of effecting these definitions will have to be tried and compared. This is an unwritten chapter of mathematics, in much the same state as was the theory of parallels in the eighteenth century.

In this connection I should like to draw attention to the analogy between time and space. In analysing our experience we distinguish events, and we also distinguish things whose changing relations form the events. If I had time it would be interesting to consider more closely these concepts of events and of things. It must suffice now to point out that things have certain relations to each other which we consider as relations between the space extensions of the things; for example, one space can contain the other, or exclude it, or overlap it. A point in space is nothing else than a certain set of relations between spatial extensions.

Analogously, there are certain relations between events which we express by saying that they are relations between the temporal durations of these events, that is, between the temporal extensions of the events. [The durations of two events A and B may one precede the other, or may partially overlap, or may one contain the other, giving in all six possibilities.] The properties of the extension of an event in time are largely analogous to the extension of an object in space. Spatial extensions are expressed by relations between objects, temporal extensions by relations between events.

The point in time is a set of relations between temporal extensions. It needs very little reflection to convince us that a point in time is no direct deliverance of experience. We live

in durations, and not in points. But what community, beyond the mere name, is there between extension in time and extension in space? In view of the intimate connection between time and space revealed by the modern theory of relativity, this question has taken on a new importance.

I have not thought out an answer to this question. I suggest, however, that time and space embody those relations between objects on which depends our judgment of their externality to ourselves. Namely, extension in space and extension in time both embody and perhaps necessitate a judgment of externality. This suggestion is very vague, and I must leave it in this crude form.

Diverse Euclidean Measure Systems.

Turning now to the mathematical investigations on the axioms of geometry, the outcome, which is most important for us to remember, is the great separation which it discloses between non-metrical projective geometry, and metrical geometry. Non-metrical projective geometry is by far the more fundamental. Starting with the concepts of points, straight lines, and planes (of which not all three need be taken as undefinable), and with certain very simple non-metrical properties of these entities—such as, for one instance, that two points uniquely determine a straight line—nearly the whole of geometry can be constructed. Even quantitative co-ordinates can be introduced, to facilitate the reasoning. But no mention of distance, area, or volume, need have been introduced. Points will have an order on the line, but order does not imply any settled distance.

When we now enquire what measurements of distance are possible, we find that there are different systems of measurement all equally possible. There are three main types of system: any system of one type gives Euclidean geometry, any system of another type gives Hyperbolic (or Lobatchewskian) geometry, any system of the third type gives Elliptic geometry.

Also different beings, or the same being if he chooses, may reckon in different systems of the same type, or in systems of different types. Consider the example which will interest us later. Two beings A and B agree to use the same three intersecting lines as axes of x , y , z . They both employ a system of measurement of the Euclidean type, and (what is not necessarily the case) agree as to the plane at infinity. That is, they agree as to the lines which are parallel. Then with the usual method of rectangular Cartesian axes, they agree that the co-ordinates of P are the lengths ON, NM, MP. So far all is harmony. A fixes on the segment OU₁, on OX, as being the unit length, and B on the segment OV₁, on Oy. A calls his co-ordinates (x, y, z), and B calls them (X, Y, Z).

Then it is found [since both systems are Euclidean] that, whatever point P be taken,

$$X = \beta x, \quad Y = \gamma y, \quad Z = \delta z. \quad [\beta \neq \gamma \neq \delta].$$

They proceed to adjust their differences, and first take the x -co-ordinates. Obviously they have taken different units of length along O*x*. The length OU₁, which A calls one unit, B calls β units. B changes his unit length to OU₁, from its original length OV₁, and obtains $X = x$. But now, as he must use the same unit for all his measurements, his other co-ordinates are altered in the same ratio. Thus we now have

$$X = x, \quad Y = \gamma y / \beta, \quad Z = \delta z / \beta.$$

The fundamental divergence is now evident. A and B agree as to their units along O*x*. They settled that by taking a given segment OU₁ as having the unit length. But they cannot agree as to what segment along Oy is equal to OU₁. A says it is OU₂, and B that it is OU₂'. Similarly for lengths along OZ.

The result is that A's spheres

$$x^2 + y^2 + z^2 = r^2,$$

are B's ellipsoids,

$$X^2 + \beta^2 Y^2 / \gamma^2 + \beta^2 Z^2 / \delta^2 = r^2,$$

i.e.
$$X^2 / \beta^2 + Y^2 / \gamma^2 + Z^2 / \delta^2 = r^2 / \beta^2.$$

Thus the measurement of angles by the two is hopelessly at variance.

If $\beta \neq \gamma \neq \delta$, there is one and only one set of common rectangular axes at O, namely that from which they started. If $\gamma = \delta$, but $\beta \neq \gamma$, then there are a singly infinite number of common rectangular axes found by rotating the axes round Ox. This is, for us, the interesting case. The same phenomena are reproduced by transferring to any parallel axes.

The root of the difficulty is that A's measuring rod, which for him is a rigid invariable body, appears to B as changing in length when turned in different directions. Similarly all measuring rods, satisfactory to A, violate B's immediate judgment of invariability, and change according to the same law. There is no way out of the difficulty. Two rods ρ and σ coincide whenever laid one on the other; ρ is held still, and both agree that it does not change. But σ is turned round. A says it is invariable, B says it changes. To test the matter, ρ is turned round to measure it, and exactly fits it. But while A is satisfied, B declares that ρ has changed in exactly the same way as did σ . Meanwhile B has procured two material rods satisfactory to him as invariable, and A makes exactly the same objections.

We shall say that A and B employ diverse Euclidean metrical systems.

The most extraordinary fact of human life is that all beings seem to form their judgments of spatial quantity according to the same metrical system.

Relativity in Modern Physics.

Owing to the fact that points of space are incapable of direct recognition, there is a difficulty—apart from any abstract

question of the nature of space—in deciding on the motion to be ascribed to any body. Even if there be such a thing as absolute position, it is impossible in practice to decide directly whether a body's absolute position has changed. All spatial measurement is relative to matter.

Newton's laws of motion in their modern dress evade this difficulty by asserting that a framework of axes of co-ordinates can be defined by their relations to matter such that, assuming these axes to be at rest, and all velocities to be measured relatively to them, the laws hold. The same expedient has to be employed for time, namely, the laws hold when the measurement of the flow of time is made by the proper reference to periodic events. Thus the laws assert that the framework and the natural clock adapted for their use have been successfully found.

But, if one framework will do, an infinity of others serve equally well; namely, not only—as is of course the case—all those at rest relatively to the first framework, but also all those which move without relative rotation with uniform velocity relatively to the first. This whole set of frameworks is on a level in respect to Newton's laws. We will call them Dynamical frameworks.

Now, suppose there are two observers, A and B. They agree in their non-metrical projective geometry, *e.g.*, what A calls a straight line so does B. They also both apply a Euclidean metrical system of measurement to this space. Their two metrical systems also agree in having the same plane at infinity, that is, lines which are parallel for A are also parallel for B. Furthermore, they have both successfully applied Newton's laws to the movement of matter, and agree in having the same sets of dynamical axes. But the framework (among these sets) which A chooses to regard as at rest is different from the frame (among the same sets) which B so regards.

Without alteration of their respective judgments of rest,

they choose their co-ordinate axes so that the origins (O for A, and O' for B) are in relative motion along OO', which is the axis of x for both.

Further, since OO' is the line of symmetry of their diverse Euclidean systems, we assume that the two measure-systems agree for planes perpendicular to OO', *i.e.*, we assume a symmetry round OO'. Then if for A at O, the distance OO' be ξ , the relations at any instant between A's co-ordinates (x, y, z) and B's co-ordinates (x', y', z') for the same point P are given by

$$x' = \beta(x - \xi), \quad y' = y, \quad z' = z.$$

Also, according to A's clock, O' is moving forward with a uniform velocity v . Also we measure A's time from the instant of the coincidence of O and O'.

Thus
$$\xi = vt,$$

and
$$x' = \beta(x - vt), \quad y' = y, \quad z' = z.$$

We now consider B's clock, and ask for the most general supposition which is consistent with the fact that their judgments as to the fact of uniform motion are in agreement.

We do not assume that events in various parts of space which A considers to be simultaneous are so considered by B. But we assume that at any point P, co-ordinates (x, y, z) for A, there is a determinate relation between B's time T and x, y, z, t .

Put
$$T = f(x, y, z, t).$$

Write
$$P = \frac{\delta T}{\delta x}, \quad Q = \frac{\delta T}{\delta y}, \quad R = \frac{\delta T}{\delta z}, \quad S = \frac{\delta T}{\delta t}.$$

Now suppose that the point P is moving, and that (u_1, u_2, u_3) is its set of component velocities along the axes according to A's "space and clock" system, and (U_1, U_2, U_3) is its set of component velocities according to B's "space and clock" system. Then by mere differentiation it follows by a short mathematical deduction that—

$$U_1 = \left\{ \frac{d\beta}{dt} (x-vt) + \beta (u_1-v) \right\} / \{Pu_1 + Qu_2 + Ru_3 + S\},$$

$$U_2 = u_2 / \{Pu_1 + Qu_2 + Ru_3 + S\},$$

$$U_3 = u_3 / \{Pu_1 + Qu_2 + Ru_3 + S\}.$$

But we have assumed that, whatever the direction of the resultant velocity (u_1, u_2, u_3) , the velocities (U_1, U_2, U_3) and (u_1, u_2, u_3) are both uniform when either is uniform.

Hence it is easily proved that β , P , Q , R , S are independent of the co-ordinates (x, y, z) and of the time t . In other words, they are constant.

Hence we obtain

$$U_1 = \beta (u_1 - v) / \{Pu_1 + Qu_2 + Ru_3 + S\},$$

and
$$T = Px + Qy + Rz + St.$$

But we assumed that OO' , *i.e.*, Ox , is an axis of symmetry. It follows from this assumption that

$$Q = R = 0.$$

We thus obtain the simplified results

$$\left. \begin{aligned} T &= Px + St, \\ U_1 &= \beta (u_1 - v) / (Pu_1 + S), \\ U_2 &= u_2 / (Pu_1 + S), \\ U_3 &= u_3 / (Pu_1 + S). \end{aligned} \right\} \quad (I)$$

Here we remember that (u_1, u_2, u_3) are the velocities of any particle according to A's "space and clock" system, and that (U_1, U_2, U_3) are the velocities of the same point according to B's "space and clock" system. We have obtained the most general relations consistent with the facts that (1) they both employ Euclidean systems, related as described above, and (2) they agree in their judgments on the uniformity of velocity.

We now compare their judgments on the magnitudes of velocities.

Let the magnitude of the velocity of P be V according to A's judgment, and V' according to B's judgment.

$$\begin{aligned} \text{Then} \quad V^2 &= u_1^2 + u_2^2 + u_3^2, \\ V'^2 &= U_1^2 + U_2^2 + U_3^2. \end{aligned}$$

Also we can put

$$u_1 = lV, \quad u_2 = mV, \quad u_3 = nV,$$

where (l, m, n) have nothing to do with the magnitude V , but simply depend on the direction of motion. In fact (l, m, n) , are the "direction cosines" of the velocity according to A's judgment. By substituting in the above equation for V^2 we see that

$$l^2 + m^2 + n^2 = 1.$$

Now, substituting for (u_1, u_2, u_3) in the equations (I) above, and squaring and adding, and eliminating $m^2 + n^2$ by the relation just found, we at once find

$$V'^2 = \{(\beta^2 - 1)V^2 l^2 - 2\beta^2 V v l + \beta^2 v^2 + V^2\} / (P V l + S)^2.$$

It is thus seen that in general the relation of V' to V depends on the direction cosine l . Now l is the cosine of the angle which the direction of the velocity V makes with Ox , according to A's judgment.

The meaning of this relation is that if A discharges, from guns at the point P, shells with a given muzzle velocity V , according to his judgment, B will consider that their muzzle velocities are different from each other, except in the case of pairs of guns equally inclined to the axis OO' . Instances of this type of diversity of judgment can be noted any day by anyone who looks out of the window of a railway carriage, and forgets that he is travelling.

Now, suppose the velocity V' bears a relation to the velocity V , which is independent of l . Then l must disappear from the above formula. There are two conditions to be satisfied:—

One condition is

$$V^2 = \beta^2 v^2 / (\beta^2 - 1),$$

or in a more convenient form

$$\beta^2 = 1 / (1 - v^2 / V^2).$$

The meaning of this condition is that there is one, and only one, muzzle velocity V (according to A 's judgment), namely, the muzzle velocity given by the above formula, which can have the property that B will judge that all the guns are firing in their diverse directions with one common muzzle velocity.

Let us now suppose that V has this peculiar value: that is, if we look on this value V as known, we must suppose that β is given by the second of the above formulæ.

The other condition allows P and S to be put in the forms

$$P = -\beta v/\lambda V^2, \quad S = \beta/\lambda,$$

where

$$V' = \lambda V.$$

Thus we have the bundle of formulæ

$$\begin{aligned}\beta^2 &= 1/(1-v^2/V^2), \\ T &= \beta \{t - vx/V^2\}/\lambda, \\ V' &= \lambda V.\end{aligned}$$

The value which we give to λ is purely a matter for the adjustment of units. If we want A and B to agree in their judgments of the magnitude of this peculiar muzzle-velocity, we put $\lambda = 1$.

We then get the formulæ usually adopted, namely,

$$\left. \begin{aligned}\beta^2 &= 1/(1-v^2/V^2), \\ T &= \beta \{t - vx/V^2\}, \\ V' &= V.\end{aligned} \right\} \quad (II)$$

But if we prefer that A and B should reckon (according to A 's judgment) in the same units of time, we put $\lambda = \beta$, and obtain

$$\begin{aligned}\beta^2 &= 1/(1-v^2/V^2), \\ T &= t - vx/V^2, \\ V' &= \beta V.\end{aligned}$$

But A and B are in any case in such hopeless difficulties over their comparisons of time judgments that the detail of using the same units does not help them much. Accordingly the formulæ marked (II) are those used. Thus A and B agree in their judgments as to the magnitude of one special velocity V , whatever may be the direction in which the entity possessing it is moving.

In order to reach this measure of agreement, they have to disagree as to their space judgments and their time judgments. The root cause of their disagreement is their diverse judgment as to which axis system is to be taken at rest for the purpose of measuring velocities.

Before discussing the nature of the disagreement disclosed in formula (II), let us ask why we should bring these difficulties on our heads by supposing that two people in relative motion, who both (for the purpose of measuring velocities) assume that they are at rest, should agree in their judgments in respect to this special velocity V .

Such an agreement has no counterpart in any of our obvious judgments made from railway carriages. Surely we can wait till the contingency occurs before discussing the confusion which it creates.

But the contingency has occurred. It occurs when we consider the velocity of light. Perhaps I may venture to remind a philosophical society that light moves so very quickly that it is difficult to consider its velocity at all. So we need not be surprised that this peculiar fact concerning its velocity is not more obvious.

Now V being the velocity of light, unless v is large, v/V (and still more v^2/V^2) will be quite inappreciable. The only velocity ready to hand which is big enough to give v/V an appreciable value is the velocity of the earth in its orbit.

Many diverse experiments have been made, and they all agree in concluding that a man who assumes the earth to be at

rest will find by measurement that the velocity of light is the same in all directions. Furthermore, when the same man turns his attention to interstellar or interplanetary phenomena, and assumes the sun to be at rest, he will again find the velocity of light to be the same in all directions. These are well attested experiments made at long intervals of time.

This is the exact contingency contemplated above.

Again the velocity of light *in vacuo* has recently taken on a new dignity. It used to be one among other wave velocities, such as the velocity of sound in air, or in water, or the velocity of surface waves in water. But Clerk Maxwell discovered that all electromagnetic influences are propagated with the velocity of light, and now modern physical science half suspects that electromagnetic influences are the only physical influences which relate the changes in the physical world. Accordingly the velocity of light becomes the fundamental natural velocity, and experiment shows that our judgment of its magnitude is not affected by our choice of the framework at rest, so long as we keep to a set of dynamical axes. These experiments on light have been confirmed by other electromagnetic experiments not involving light.

Thus we are driven to equations (II), where V is the velocity of light.

The first conclusion to be drawn from equations (II) is that two people who make different choices of bodies at rest will disagree as to their measuring rods in the way described above. There is no peculiar difficulty about that. The only wonder is that all people agree so well in their judgments as to metrical systems. A mathematical angel would naturally expect incarnate men to be in violent disagreement on this subject.

But the case of time is different. For simplicity of statement we speak of A as at O , and B as at O' . We remember that O' is moving relatively to O with velocity v in direction OO' . Suppose A and B are looking in this direction; and

they both measure their time from the instant when they met, as O' passed over O . Then we have

$$T = \{t - vx/V^2\} / \{1 - v^2/V^2\}.$$

Now, suppose we consider all the events all over space which A considers to have happened simultaneously at the time t . The events of this set which occurred anywhere on a plane perpendicular to OO' at a distance x in front of O (according to A 's reckoning), will have occurred according to B 's reckoning at the time T as given above. Let us fix our attention on the fact that B does not consider all these events to be simultaneous. For let T_1 and T_2 be B 's times for such events on planes x_1 and x_2 . Then

$$T_1 - T_2 = v(x_2 - x_1)/(V^2 - v^2).$$

Thus if x_2 be greater than x_1 , T_2 is less than T_1 . Thus B judges the more distant events in front of him to have happened earlier than the nearer events in front of him, and *vice versa* for the events behind. This disturbance of the judgment of simultaneity is the fundamental fact. Obviously the measurement of time intervals is a detail compared to simultaneity. A may think a sermon long, and B may think it short, but at least they should both agree that it stopped when the clock hand pointed at the hour. The worst of the matter is that so far as any test can be applied there is no method of discriminating between the validities of their judgments.

Thus we are confronted with two distinct concepts of the common world, A 's space-time concept, and B 's space-time concept. Who is right? It is no use staying for an answer. We must follow the example of the wise old Roman, and pass on to other things.

Thus estimates of quantity in space and time, and, to some extent, even estimates of order, depend on the individual observer. But what are the crude deliverances of sensible

experience, apart from that world of imaginative reconstruction which for each of us has the best claim to be called our real world? Here the experimental psychologist steps in. We cannot get away from him. I wish we could, for he is frightfully difficult to understand. Also, sometimes his knowledge of the principles of mathematics is rather weak, and I sometimes suspect—No, I will not say what I sometimes think: probably he, with equal reason, is thinking the same sort of thing of us.

I will, however, venture to summarise conclusions, which are, I believe, in harmony with the experimental evidence, both physical and psychological, and which are certainly suggested by the materials for that unwritten chapter in mathematical logic which I have already commended to your notice. The concepts of space and time and of quantity are capable of analysis into bundles of simpler concepts. In any given sensible experience it is not necessary, or even usual, that the whole complete bundle of such concepts apply. For example, the concept of externality may apply without that of linear order, and the concept of linear order may apply without that of linear distance.

Again, the abstract mathematical concept of a space-relation may confuse together distinct concepts which apply to the given perceptions. For example, linear order in the sense of a linear projection from the observer is distinct from linear order in the sense of a row of objects stretching across the line of sight.

Mathematical physics assumes a given world of definitely related objects, and the various space-time systems are alternative ways of expressing those relations as concepts in a form which also applies to the immediate experience of observers.

Yet there must be one way of expressing the relations between objects in a common external world. Alternative methods can only arise as the result of alternative standpoints;

that is to say, as the result of leaving something added by the observer sticking (as it were) in the universe.

But this way of conceiving the world of physical science, as composed of hypothetical objects, leaves it as a mere fairy tale. What is really actual are the immediate experiences. The task of deductive science is to consider the concepts which apply to these data of experience, and then to consider the concepts relating to these concepts, and so on to any necessary degree of refinement. As our concepts become more abstract, their logical relations become more general, and less liable to exception. By this logical construction we finally arrive at conceptions, (i) which have determinate exemplifications in the experience of the individuals, and (ii) whose logical relations have a peculiar smoothness. For example, conceptions of mathematical time, of mathematical space, are such smooth conceptions. No one lives in "an infinite given whole," but in a set of fragmentary experiences. The problem is to exhibit the concepts of mathematical space and time as the necessary outcome of these fragments by a process of logical building up. Similarly for the other physical concepts. This process builds a common world of conceptions out of fragmentary worlds of experience. The material pyramids of Egypt are a conception, what is actual are the fragmentary experiences of the races who have gazed on them.

So far as science seeks to rid itself of hypothesis, it cannot go beyond these general logical constructions. For science, as thus conceived, the divergent time orders considered above present no difficulty. The different time systems simply register the different relations of the mathematical construct to those individual experiences (actual or hypothetical) which could exist as the crude material from which the construct is elaborated.

But after all it should be possible so to elaborate the mathematical construct so as to eliminate specific reference to particular experiences. Whatever be the data of experience, there must be something which can be said of them as a whole,

and that something is a statement of the general properties of the common world. It is hard to believe that with proper generalisation time and space will not be found among such properties.

Supplementary Notes on the Above Paper.

By Professor WHITEHEAD.

The first four pages of the paper consist of a summary of ideas which ought to be in our minds while considering problems of time and space. The ideas are mostly philosophical, and the summary has been made by an amateur in that science; so there is no reason to ascribe to it any importance except that of a modest reminder. There are only two points in this summary to which I would draw attention.

In the middle of p. 105 there occurs:—

“Wherever mankind . . . unending uniform succession.”

If I understand Kant rightly—which I admit to be very problematical—he holds that in the act of experience we are aware of space and time as ingredients necessary for the occurrence of experience. I would suggest—rather timidly—that this doctrine should be given a different twist, which in fact turns it in the opposite direction—namely, that in the act of experience we perceive a whole formed of related differentiated parts. The relations between these parts possess certain characteristics, and time and space are the expressions of some of the characteristics of these relations. Then the generality and uniformity which are ascribed to time and space express what may be termed the uniformity of the texture of experience.

The success of mankind—modest though it is—in deducing uniform laws of nature is, so far as it goes, a testimony that this uniformity of texture goes beyond those characteristics of the data of experience which are expressed as time and space.

Time and space are necessary to experience in the sense that they are characteristics of our experience; and, of course, no one can have our experience without running into them. I cannot see that Kant's deduction amounts to much more than saying that "what is, is"—true enough, but not very helpful.

But I admit that what I have termed the "uniformity of the texture of experience" is a most curious and arresting fact. I am quite ready to believe that it is a mere illusion; and later on in the paper I suggest that this uniformity does not belong to the immediate relations of the crude data of experience, but is the result of substituting for them more refined logical entities, such as relations between relations, or classes of relations, or classes of classes of relations. By this means it can be demonstrated—I think—that the uniformity which must be ascribed to experience is of a much more abstract attenuated character than is usually allowed. This process of lifting the uniform time and space of the physical world into the status of logical abstractions has also the advantage of recognising another fact, namely, the extremely fragmentary nature of all direct individual experience.

My point in this respect is that fragmentary individual experiences are all that we know, and that all speculation must start from these *disjecta membra* as its sole datum. It is not true that we are directly aware of a smooth running world, which in our speculations we are to conceive as given. In my view the creation of the world is the first unconscious act of speculative thought; and the first task of a self-conscious philosophy is to explain how it has been done.

There are roughly two rival explanations. One is to assert the world as a postulate. The other way is to obtain it as a deduction, not a deduction through a chain of reasoning, but a deduction through a chain of definitions which, in fact, lifts thought on to a more abstract level in which the logical ideas are more complex, and their relations are more universal. In this way the broken limited experiences sustain that con-

nected infinite world in which in our thoughts we live. There are three more remarks while on this point I wish to make:—

(i) The fact that immediate experience is capable of this deductive superstructure must mean that it itself has a certain uniformity of texture. So this great fact still remains.

(ii) I do not wish to deny the world as a postulate. Speaking without prejudice, I do not see how in our present elementary state of philosophical advance we can get on without middle axioms, which, in fact, we habitually assume.

My position is that by careful scrutiny we should extrude such postulates from every part of our organised knowledge in which it is possible to do without them.

Now, physical science organises our knowledge of the relations between the deliverances of our various senses. I hold that in this department of knowledge such postulates, though not entirely to be extruded, can be reduced to a minimum in the way which I have described.

I have not the slightest knowledge of theories respecting our emotions, affections, and moral sentiments, and I can well believe that in dealing with them further postulates are required. And in practice I recognise that we all make such postulates, uncritically.

(iii) The next paragraphs on pp. 105 and 106 are as follows:—

“The opposed philosophical method . . . physical science.”

It will be noted that, in the light of what has just been stated, the first of these paragraphs (which, I hope, faithfully expresses the experiential way of approaching the problem) really obscures the point which I have been endeavouring to make. The phrase, “If we form the exact concepts of points, etc.,” is fatally ambiguous as between the method of postulating entities with assigned relations, and the method of forming logical constructions, and thus reaching points, etc., as the result of a chain of definitions.

Turning now to pp. 106-7, we come to the following paragraphs:—

“The other theory . . . eighteenth century.”

We note again that the relational theory of space from another point of view brings us back to the idea of the fundamental space entities as being logical constructs from the relations between things. The difference is that this paragraph is written from a more developed point of view, as it implicitly assumes the things in space, and conceives space as an expression of certain of their relations. Combining this paragraph with what has gone before, we see that the suggested procedure is first to define “things” in terms of the data of experience, and then to define space in terms of the relations between things.

This procedure is explicitly assumed in the next short paragraph: “In this connection . . . from the events.”

The gist of the remaining paragraphs of this section is contained in the paragraph at the bottom of p. 107: “The point in time . . . new importance.”

The sentence, “We live in durations, and not in points,” can be amplified by the addition, “We live in space-extensions and not in space-points.”

It must be noted that “whole and part” as applied to extensions in space or time must be different from the “all and some” of logic, unless we admit points to be the fundamental entities. For “spatial whole and spatial part” can only mean “all and some” if they really mean “all the points and some of the points.” But if extensions and their relations are more fundamental than points, this interpretation is precluded. I suggest that “spatial whole and spatial part” is intimately connected with the fundamental relation between things from which our space ideas spring.

The relation of space whole to space part has many formal properties which are identical with the properties of “all and some.” Also when points have been defined, we can replace it

by the conception of "all the points and some of the points." But the confusion between the two relations is fatal to sound views on the subject.

Diverse Euclidean Measure Systems.

The next section deals with the measure systems applicable to space.

A measure system is a group of congruent transformations of space into itself. Consider a rigid body occupying all space. Let this body be moved in any way so that the particles of the body which occupied points P_1, P_2, P_3 , etc., now occupy points Q_1, Q_2, Q_3 , etc. Then any point P_1 in space is uniquely related to the corresponding point Q_1 in space by a one-to-one transformation with certain characteristics. By the aid of these transformations we can achieve the definition of distance in a way which definitely determines the distance between any two points, provided that we can define what we mean by a congruent transformation without introducing the idea of distance. If we introduced the idea of distance, we should simply say that a congruent transformation is one which leaves all distances unchanged, *i.e.*, if P_1, P_2 are transformed into Q_1, Q_2 , then the distance P_1P_2 is equal to the distance Q_1Q_2 .

But mathematicians have succeeded in defining congruent transformations without any reference to distance.

There are alternative groups of such congruent transformations, and each group gives a different measure system for space. The distance P_1P_2 may equal the distance Q_1Q_2 for one measure system, and will not equal it for another measure system. All these different measure systems are on the same level, equally applicable. A being with a strong enough head could think of them all at once as applying to space. The result so far as it interests us in respect to the theory of relativity is explained on pp. 107-10, ending with "The root of the difficulty . . . same metrical system." This final sentence bears on Poincaré's assertion that the measure system adopted is purely

"conventional." I presume that by "conventional" a certain arbitrariness of choice is meant; and in that case, I must express entire dissent. It is true that within the circle of geometrical ideas there is no means of giving any preference to any one measure system, and any one is as good as any other. But it is not true that if we look at a normal carriage wheel, and at an oval curve one foot broad and ten feet long, we experience any arbitrariness of judgment in deciding which has approximately the form of a circle. Accordingly to Poincaré the choice between them, as representing a circle, is entirely conventional.

Again we equally form immediate judgments as to whether a body is approximately rigid. We know that a paving stone is rigid, and that a concertina is not rigid. This again necessitates a determinate measure system, selected from among the others.

Accordingly we conclude that (i) each being does in fact employ a determinate measure system, which remains the same, except possibly for very small variations, and (ii) the measure systems of different human beings agree, to within the limits of our observations. These conclusions are not the less extraordinary because no plain man has ever doubted them.

It is an interesting subject to investigate exactly what are the fundamental uniformities of experience which necessitate this conclusion. It is not so easy as it looks, since we have to divest ourselves of all aid of scientific hypothesis if our conclusions are to be demonstrative.

Relativity in Modern Physics.

Pp. 110-111, "Owing to the fact . . . which B so regards."

The fundamental formulæ for the theory of relativity are the relations between diverse co-ordinate systems given on p. 112, and formulæ II at the bottom of p. 115. The general explanation of one method in which these formulæ arise—namely, Einstein's method—is given on pp. 111-118. Namely, we seek the condition that for all dynamical axes the velocity of light

should be the same, and the same in all directions. It should be noted that the experiments which, so far as they go, confirm these formulæ, can also be explained in another way which makes the theory of relativity unnecessary. We need only ascribe to the ether a certain property of contraction in the direction of motion, and the thing is done. So no one need be bludgeoned into accepting the rather bizarre doctrine of relativity, nor indeed any other scientific generalisation. The good old homely ether, which we all know, can in this case serve the purpose. Just as an author of genius, if he lives long enough, survives the inevitable accusation of immorality, so the ether by dint of persistence has outlived all reputation of extravagance. But if we detach ourselves from the glib phraseology concerning it, the scientific ether is uncommonly like the primitive explanation of the soul, as a little man inside us, which can sometimes be caught escaping in the form of a butterfly. As soon as the ether has to be patched up with special properties to explain special experiments, its scientific use is problematical, and its philosophic use is nil.

Philosophically the ether seems to me to be an ambitious attempt to give a complete explanation of the physical universe by making an elephant stand on a tortoise. Scientifically it has a perfectly adequate use by veiling the extremely abstract character of scientific generalisations under a myth, which enables our imaginations to work more freely. I am not advocating the extrusion of ether from our scientific phraseology, even though at special points we have to abandon it.

But the key to the reasons why it is worth while to consider seriously the doctrine of relativity is to be found on p. 117. "Again the velocity of light . . . not involving light." Namely, we have begun to suspect that all physical influences require time for their propagation in space. This generalisation is a long way from being proved. Gravitation stands like a lion in the path. But if it is the case, then all idea of an immediate

presentation to us of an aspect of the world as it in fact is, must necessarily be abandoned. What we perceive at any instant is already ancient history, with the dates of the various parts hopelessly mixed.

We must add to this the difficulty of determining what is at rest and what is in motion, and the further difficulty of determining a definite uniform flow of time. It is no use discussing this matter as though, but for the silly extravagant doctrine of relativity, everything would be plain sailing. It isn't. You may be quite sure that when, after prolonged study, you endeavour to give the simplest explanation of a grave difficulty, you will be accused of extravagance. I have no responsibility for the doctrine of relativity, and hold no brief for it, but it has some claim to be considered as a comparatively simple way out of a scientific maze.

In the first place, we use the Newtonian dynamical sets of axes, and the Newtonian clock to extricate ourselves partially from the difficulties of rest, motion, and time. These have proved capable of scientific determination within the limits of our experimental accuracy. Thus the only thing left over is the choice of the axes at rest, which is a completely indeterminate problem on Newtonian principles.

Again, so far as we can at present guess by adopting the theory that all metrical influence is electromagnetic, all influences are propagated with the velocity of light *in vacuo*. This electromagnetic hypothesis is by no means established, but it gives the simplest of all possible results in respect to the propagation of influence, which we therefore adopt.

But what dynamical axes are we taking as at rest? Now our practical choice gives a range of relative velocities small compared to that of light. So except for certain refined experiments it does not matter. There are two possibilities:—

(i) We may assume that one set of axes are at rest, and that the others will show traces of motion in respect to the velocity of light; or

(ii) That the velocity of light is the same in all directions whichever be the dynamical axes assumed.

The first supposition is negatived by experiment, and hence we are driven to the second supposition; which immediately lands us in the whole theory of relativity.

But if we will not have this theory we must reject the earlier supposition that the velocity of light *in vacuo* is the same in all directions. This we do, in fact, by assuming an ether, and assuming a certain law for its modification. Then we, in fact, adopt the first supposition so far as to hold that there are dynamical axes specially at rest, namely, at rest relatively to the undisturbed ether. Then an assumed law for the modification of the ether so alters the velocity of light that we explain why no dynamical axes show traces of motion.

I wish now to go back to the point which I made a few minutes ago, that what we perceive at any instant is ancient history with its dates hopelessly mixed. In the earlier part of my comments I emphasised the point that our only data as to the physical world are our sensible perceptions. We must not slip into the fallacy of assuming that we are comparing a given world with given perceptions of it. The physical world is in some general sense of the term a deduced concept.

Our problem is, in fact, to fit the world to our perceptions, and not our perceptions to the world.

V.—RELATIVITY: A NEW YEAR TALE.

By Sir JOSEPH LARMOR.

There was a race of men who were born blind. As their intelligence improved and their experience developed, they began to acquire notions of before and after, perhaps the only relations about which they could in any case be precise. But on this subject they came to hopeless perplexity. For one man said that event A was before B, because the noise of it reached him sooner, whereas another man, who was elsewhere at the time, maintained, when they came to compare notes, that it was directly the opposite, for he heard B before A. They were almost ready to prepare to examine the problem, Does knowledge exist? But some of the race, by an effort of abstract thought, found a way through. They taught that all events are conditioned by one absolute rate of delay, or slowness of transfer, innate in the frame of reality, and that, by abstract construction on this basis, every man, without caring where he was, yet feeling his own isolation, could form a scheme of things for himself that satisfied his inquiring spirit. The scheme was brilliant, fertile, concise, and coherent, within its original scope. It lay exactly along the lines of evolution of the formal mathematics of the period; so that it had been said that the abstract mathematicians might have thought of it for themselves ages before, if they had chanced to look up from their work. But these blind men also felt the glow of heat, which changed very definitely, somehow as if it operated by rays, as they moved from place to place and from time to time, and which they had not thought of specially when their scheme of reconciliation was made. The new phenomena had to be incorporated in the scheme. Of course, no question could arise as to explaining them; but the scheme had to be modified in order to include them. This, too, was achieved by an effort of abstract thought; but the scheme,

though brilliantly successful, had now become so complex that only a very few of the deepest spirits could grasp it. In the course of time one of the race gained the sense of sight. Assisted by his mental scheme, with which he was familiar—but which had been attained by so much effort amid the complex inter-relations of time and space, as they had previously been revealed to him—he now took in a wider world at a glance, and enjoyed the explorer's reward. Ultimately he told his brethren that he was cognizant of their schemes of space and time, as well as his own.

In time they all gained the power of sight, and then they all visualized for themselves, in a more extensive and more intimately coherent reality. But in the course of ages, as their faculties became sharpened, they detected the slowness of light itself; and, encouraged by certain indications of experiment, which, however, did not necessarily point that way, they came to be bothered by the same distress with regard to sight that had troubled their ancestors with regard to hearing. Only in a sense their troubles were now inverted. For it must be related that certain of their wise men, aided in their experiments by god-like intuition, had actually divined the nature of what it was by which they saw remote objects. These men imagined a quivery permanent object pervading their universe, and it was its tremblings that travelled to them with the message of sight. They even, some of them, afterwards abstracted the knowledge thus gained from the quivery permanent object that had helped their powers of association and co-ordination, but could be kicked away like a ladder after they had mounted to their summit of contemplation. Yet, whatever they did, they were bothered by two slownesses, necessitated by the very nature of this synthesis, with which the two geometrically different kinds of trembling would travel; and the only satisfactory way they could find as regards their immediate problem of light was to assume that one of these slownesses was so slight compared with the other,

and its control therefore so stiff, that such messages as could be locally excited for it to transmit would be too latent to be noticeable. In time some of these philosophers had their own qualms. They said, as has been related already, that there was no evidence for a quivery permanent substance, which was merely a crude mode of expression. Later some of them said that there was as little warrant for the abstract relations filling their universe, by which that substance had been replaced. They said that there were just tiny objects projected across—no further inference was allowable—and that they could have but one slowness. Thus they reached again the problems of their remote ancestors, and the same solutions were soon found to be consistent with their new and extensive progress.

Some then fixed attention on a great discovery of the race—perhaps the greatest and most conspicuous of all as regards its consequences—that every pair of objects were continually and inevitably drawing toward each other. Nobody had any certain knowledge of the slowness of travel of this influence, but it had generally been surmised that it was almost negligible compared with the now obvious slowness of light; and some bold spirits even hazarded the guess that it might be the other slowness that in a previous stage of their investigations had stood in the way, and had to be obliterated so far as might be. Anyhow, on the view as finally purified, these attractions between bodies had all to be embraced in the contracted scheme, and to operate in terms of the one absolute slowness that alone was innate. And, strange to say, this again seems ultimately to have been accomplished by means of a great expansion and complication of that scheme, whereby it remained a consistent artistic whole still capable of being grasped piecemeal by a few of the wisest heads; and in these developments ever more new matters arose for future investigation and expansion, so that the subject is not yet in danger of being stored away as completed dead knowledge.

Cambridge, January 1, 1916.

VI.—ON THE RELATION OF THE THEORETIC TO THE PRACTICAL ACTIVITY.

By HILDA D. OAKELEY.

PHILOSOPHY is inherently a matter of theory, and it may seem that in asking for a philosophy we *ipso facto* preclude ourselves from the understanding of practice. True insight is made impossible by our procedure, and yet no other procedure is conceivable. Practice, in submitting to be philosophised upon, has already capitulated to theory; it must stretch itself out as dead for the dissecting knife, the life it has given up involves movement, change, succession, time. These must either be abandoned or they must be prepared before they can become material for philosophy. In the process of preparation they pass into new forms: time becomes space, or time and space alike become phenomena of an order in reality which is not temporal or spatial. The irreversible must be conceived as that over which the mind can pass backwards and forwards, or as though the cause might follow, the effect precede (*cf.* Bradley, *Appearance and Reality*). For a hypothetical consciousness, past may be future and future past. Cause and effect must be resolved into reason and consequent, and these again into relations equal in their rank for knowledge, however profoundly unequal for practice. Thus does philosophy play with its prey when it attempts to rationalise practice, and, having destroyed in it all the tremors which render it unfit for a place in the world of theory, it sets the practical side by side with the theoretic as an activity of thought, or mind, or spirit, having, in fact, omitted that which separates and distinguishes it from the proper object of knowledge. Is any other

treatment, indeed, possible? If we ask thought to pronounce upon life, to reflect or photograph it, life must be brought into position so that the vision of thought can reach it, though in conveying it to that position we may find ourselves conveying only its dead body. Have we any choice except between the two alternatives? Either this which we have spread out here for the analysis of thought is the reality, and all that appearance of ceaseless change and production of the new and irrecoverably unique is illusory, unreal, a semblance which must be transformed into something nearer truth for thought. Or action and life are for ever removed from the touch of philosophy, since at that cold touch they perish; with their real nature philosophy cannot deal. To some extent the latter position may seem to have been admitted, consciously or unconsciously, by some of Bergson's followers (if not by Bergson himself), in the tacit acceptance of the description of their tendency as anti-intellectualistic. Bergson (as I understand him) rejects the verdict of the intellect upon the nature of life, movement, time, the true character of reality, without setting up any reliable faculty which can take its place in philosophy. For instinct is not a faculty which can provide us with theory—indeed its possession in perfection appears to be denied to the thinking being. The embryonic power of intuition which, when fully grown and united with intellect, may lead us to a wider understanding of truth can, in its present condition, only at rare moments give us an elusive insight into that creative movement which is reality, and it is (I think) left unexplained how the vision thus gained can, as our minds are now, be elaborated into philosophy without the inevitable introduction of fatal error by the intellect which must complete the task. For the present the anti-intellectualist must surely abandon the hope of attaining a true philosophy of life, and with that a philosophy of any object, since we are nearest to reality in the process of life. Can he do more than spade-work, preparing for the greater mind of the future? The intellectualist, also,

who holds that experience cannot be fully rationalised without transformation by thought, seems to confess the failure to present a philosophy of life. For it must be agreed that in such transformation—at least, as performed by the absolute idealist—life becomes hardly recognisable by the great mass of those who experience it. The satisfaction, then, that we seek in philosophy is a “special” (*i.e.*, theoretic) satisfaction, a satisfaction for the baffled knower who has been labouring to bring the scattered and apparently incompatible fragments of his knowledge into that unity which thought demands; it is not satisfaction for the same being as practical, the hope of finding the truth of practical life is not set before the seeker.

Has, indeed, the attempt ever been made on the basis of practical life itself? This is the question which it is the object of this paper to put, or make the attempt to state. What I would ask this Society to consider is whether the question is a valid one or *ab initio* to be ruled out as self-contradictory, or whether the possibility of philosophically understanding practice may not have been hindered by the choice of the standpoint from which the subject has been in general approached.

Philosophy began (in Europe) with that question concerning the nature or original principle of things, in which was implicit (before the development of the special sciences) that conception of the relation between philosophic and scientific methods which has, on the whole, been maintained through the history of thought. When a philosophy appeared (in Heraclitus) asserting the principle without which all life and action must be condemned to a low degree of reality, the principle of flow and change as the very core of things, it was already a protest, a heresy which could never become orthodox. And when philosophy began to concern itself with practical life, it was regarded as coming down from heaven to earth, *i.e.*, this seemed to be a departure from the true subject and method of philosophy, for these were concerned with the universe of objects which can be conceived as spread out as a vast

whole, every part of which would be accessible to a perfect mind. Into such a conception when (in the course of philosophic history) developed to its full extent, a realm of things changing and growing could be admitted. For all the phases of change and growth, though so elusive as to be incapable of grasp, and calling for the notion of the infinitesimal, can be represented as innumerable shades of difference, all interrelated under some category which need not, for intelligibility, be a temporal or causal category or, if these, only as transformed by thought. And thus the vast scheme which floated before philosophic speculation as a "regulative ideal" may be said to have remained capable of absorbing one after another of the spheres of existence, including life in plants and animals, and finally including man. So at least it might seem, but into such a scheme man cannot enter as a practical being. For Aristotle ethics was a department of practical philosophy. Philosophy had already been defined, its nature determined, from the point of view involved in early Greek speculation. From a true conception of practical philosophy which should place it side by side with the theoretic he was precluded by his treatment of Ethics and Politics in the somewhat narrow interpretation given by Greek thought (except in Plato) as the whole of the subject. It had nothing to do with First Philosophy, Ontology, or Metaphysic.

There is some truth in the observation of Signor Croce that "on reading, without prejudice, the parts of the *Memorabilia*, the *Platonic Dialogues*, the *Nicomachean Ethics* and the *Magna Moralia* that relate to it" (the principle that virtue is knowledge) "it appears evident that what is treated in them is the altogether empirical question of the importance that mental development has for practical life, and whether knowledge suffices for this, or natural dispositions and discipline of the faculties be not also necessary." In modern philosophy Ethics has, on the whole, been treated either as an empirical study, or, where a metaphysic of Ethics has been formulated, the method

has really involved taking the uncriticised categories of moral judgment and relating them to a metaphysic developed out of reflection upon the theoretic activity only. Thus Kant's Categorical Imperative is an attempt to make that move and live in the practical world, which has been formulated without any reference to practical reality. Or, to put it otherwise, his expedient for endowing the universal of reason with life is to embody it in a system of motive and act which has relative existence for the intellect when analysing the practical from its own abstract standpoint, but is not the original truth of the practical reality. Nevertheless Kant's recognition of the ultimate validity of the practical, as expressed in the position given to the Critique of Practical Reason in relation to the Critique of Pure Reason, and the conception of the Primacy of the Practical, seems to come near to a truer view.

His main position, however, is based on the always orthodox philosophic method which really proceeds upon the static view of the universe, even when concerned with phenomena that are irreducibly dynamic. And even Plato's discovery in the latter stage of his thought that the Ideas are forces, though containing in it the truth, the understanding of which might have altered the whole course of philosophy, could not restore to life that which his genius had already petrified, in forms so glorious as to hypnotise the minds of all succeeding students.

The ultimate tendency of such a method may be indicated by reference to Professor Royce's attempt, in his article on Logic, in the new *Encyclopædia*, to relate together types of action and modes of thought, by applying to the universe of action, in order to establish its absolute character, the same process of reasoning as he applies in the universe of thought. He suggests, for instance, that the number-system can be so applied as to characterise the process of action.

"Any orderly succession of deeds in which men pass from one to the next has certain of the characteristics of the series

of ordinal whole numbers." Our knowledge of the whole numbers, like our knowledge of the difference between yes and no, may be founded (in his view) upon the consciousness of our own activity, and some of its necessary characters.

He supposes, presumably, that he is thus treating action as the more fundamental experience, and carrying its modes over into thought. But is he not, in fact, transferring the logical mode of thought into the sphere of action?

"Perhaps there is something about the nature of our activity, *so far as it is rational*, which necessitates a possible next deed after any deed that has been actually accomplished?" There does not appear to be anything in this analogy between next deeds and next numbers, beyond the fact that the two are both orders belonging to a world known partially, and not as a whole, immediately. For we cannot trace a bond in the succession of deeds which should furnish a clue to the quality of the necessity in the number series. The bond in the action series is quite other. Is there, indeed, anything more in this conception of "next deeds" than a form in human life of the universal mode of succession? Since he is under the condition of time, the active being must pass on to the next phase, and it belongs to his nature to pass on with consciousness, or creatively. Again, Professor Royce (following Kempe) tries to apply logical principles in the practical sphere. To any mode of action—such as singing—there corresponds, he thinks, a mode which is contradictory, *e.g.*, "not-singing," and he concludes: "The modes of action are a set of entities that in any case conform to the same logical laws to which classes and propositions conform."

A set of modes of action may therefore be viewed as a system within which the principles of logical order must be regarded as applicable. He admits that it would be impossible to define with any exactness the totality of all possible modes of action. This would involve a contradiction such as the class of all classes, or greatest possible ordinal number. There is, in

fact, no such totality. But it is possible to define a certain set or "logical universe" of modes of action in case there is some rational being who is capable of performing some one rational act. Having named some definite mode of action, which the rational being in question is capable of conceiving, the system may be determined, and will possess its own logical order-type. The fallacy of this kind of speculation seems to be due to that abstraction from the real process which generally characterises philosophies of practice. All activity has the theoretic as well as the practical aspect, but, in this application of logical categories to action, what has happened is that to the active process, after there has been abstracted its own proper theoretic element, there is added the theoretic form belonging to another kind of theoretic activity. As a result, the type of action presented is a mutilated form. The infinity in the possibilities of action is lost sight of, as well as the uniqueness and individuality of each of its stages.

In order to approach the question of the original truth of practical activity, we must endeavour, then, to make the experiment of estimating the experience at a moment prior to all such abstraction. We abstract in the process of living not less than in the process of knowing. This is inevitable at the stage of practice at which we find ourselves in ordinary experience. The will is not fully informed with thought, because both thought and will are weakened except in rare experiences. It is because we are accustomed to abstract these aspects from the real process that we find it so difficult to understand their relation to each other. Action and thought are aspects of one and the same process, as thought and extension are in Spinoza aspects of one substance. Spinoza himself, in the form he gives to his parallel, renders impossible a presentation of the real process, for if thought is an aspect corresponding not to the living movement but to the skeleton outline of the object of consciousness, then thought also is lifeless.

Practice in general is doubly abstract, abstracted from the creative action of mind, abstracted from the reality of the practical process; over the whole extent of life we see it in weakened form. The view that the process of reality is creative as presented by M. Bergson, in spite of its profound insight both into the nature of consciousness and the nature of experience, appears to stop short of the whole truth in taking as its starting point a mutilated view of reality. It is conceded to the pragmatist that in the fact of life, the process of living, we must seek the key to the universe, as though this fact, this process, could be taken as anything real in abstraction from that content of value without which we could have no experience of life and change—or not of life and change as creative. We must still ask—how does the *élan de vie* become valuable? Bergson describes the stream as flowing on from the original *élan* and creating, but if the flow is without meaning there is no force to maintain it in movement. Creativeness must be of that which has value. I think that through criticism of experience taken at its highest point—that is when most real—it might be shown that our consciousness perceives no sequence, our acts do not follow one on the other except as held together by value. It appears, then, that the notion of creativeness superadded to the conception of the irresistible flow of life cannot give reality to this flow alone, or rather creativeness itself is an incomplete notion unless it mean increase of that energy which is the source of all value, the energy of a spiritual reality through activity of persons.

Our President, who, as I venture to think, in his book on *The Philosophy of Change* somewhat spiritualises M. Bergson's theory, writes in a sense with which the view I am trying to state would so far accord, that "there are no things but only actions," "things are our eventual actions." This is Bergson's view. When he observes further that "there is a reality much wider which overflows it" (*i.e.*, the nature of the body)

"on every side, a reality which we call mind, or soul, or spirit," I am still able to agree, but he seems to be overpassing Bergson, at least in the language used. The emphasis, however, laid by Dr. Carr as by M. Bergson on the necessity of the material instrument for action, indicates that action as understood in the Philosophy of Change is something other than that practical activity which is the main subject of this paper, and (from my point of view) less real. Take, for example, the statement that "the body is the insertion of our being into the reality, our contact with the becoming, that is the manifestation of universal life," and that therefore "without the body we are nothing, for we can do nothing," and "that which can do nothing in a world of action is nothing." For according to the standpoint of the present paper that superficial appearance of activity which is produced by the physical change is in general but a phenomenon of the real process of the practical, and its place, the degree of reality it possesses, may have a very slight relation or none at all to the amount of apparent change involved. The difference of view is here profound. For it seems that for Dr. Carr and M. Bergson the quality of activity cannot be predicated of ultimate reality. "Without the body we are nothing, for we can do nothing." We, *i.e.*, presumably the world of persons in the practical activity of whom—as it seems to me—we are nearest in our experience to the ultimately real. Thus, as it may be put—on the one hand the universal flow of life in the Philosophy of Change, the most real for that philosophy, seems (to me) lacking in reality, because lacking in value. On the other hand the activity of persons which is apparently conceived as developing out of that primal source of change is for Dr. Carr as for M. Bergson only real in a secondary sense, and in my view, since not endowed by them with the reality it should have in its own right, it would be devoid of reality as of value.

For philosophy the question of the starting point is of the

greatest moment. Bergson starts from the process of life, because no doubt through intuition this is found by him to be the primal real, but also as it seems, because science has prepared the way for him, since his philosophy would raise to a higher power the scientific conception of evolution. But in the search for philosophic truth, is this necessarily the safest beginning? (I am not here considering intuition, but the basis of scientific theory). Science must abstract. For philosophy it is a matter of life and death to start from a point previous to the abstraction. The new criticism, as I conceive it in the sphere of practice and of thought, would reveal the one as unreal, the other as unintelligible without the assumption that action and thought over a great part of experience are, as it were, abstracts of a fuller experience which is seldom reached, and are therefore fragmentary, requiring for their interpretation to be seen in relation to that complete activity, practical and theoretic, which is always creative of value. Such a criticism would be analogous to the idealistic treatment of the special sciences or departments of knowledge as having only a relative or partial truth when taken in isolation from the whole. But the reality of which, in the conception here advanced, we only experience in our ordinary life as doers and knowers, a thin abstraction, is the complete movement of a spiritual process rather than that totality which is, in the view of Absolutism, always completed and perfected as eternal, since this itself is lacking in a fundamental quality of the real, its creative process.

Mr. F. H. Bradley in the *Essays on Truth and Reality* comes at times very near to the conception of the practical which appears to be true (though not in his use of the *words* practical and practice), especially when distinguishing his standpoint from that of the Pragmatists, but, as I venture to think, his elaboration of the truth of activity still comes short of its reality, on account of the method which has its starting point in logic.

In the note to the Essay "On Truth and Practice," Mr. Bradley expresses the view that the difference which exists between practical and non-practical activity is a difference which is not absolute. The merely practical, he insists, would be nothing real. It would be "the maintenance and alteration of existence in complete abstraction from the quality of existence and the change. Its end would be to produce the greatest quantity of bare doing." And he goes on to point out that there is no creature out of whose life quality can be struck as irrelevant. However low you descend, you will reach no stage where the "what" that is sought and done is subordinate to bare doing, and, except as a means to bare doing, is irrelevant. Thus, "on the one hand, no activity is barely practical, there is in the end no activity which exists for its own sake as a process, without any regard for its own nature and quality, and in abstraction from all that can be regarded as a product. On the other hand, we may say that in the end, all activity is practical. For there is nothing which is apart from process and change in existence."

That no activity is barely "practical" in the sense intended, is a proposition with which this paper is entirely in accord, though the practical—as I conceive it—has always a totally different significance from that of mere maintenance and alteration of existence. The concession which Mr. Bradley apparently makes to the Pragmatists in allowing the singling out of the notion of mere doing as a bare alteration of existence with, it seems, as little of value included beyond this as possible—this mere doing being the most essential element in the "Practical" (even though hardly to be found in an actual instance devoid of all value)—appears to involve a misconception of the Practical which is more than a matter of terminology, and is not really consistent with Mr. Bradley's general position.

If we turn to the illustrations given, we find that he places in the same class as practical activities:—

(1) The act of digging the ground, which produces an alteration in the "world" for the individual.

(2) The set of deeds involved in a moral reformation, which alters his own "existence."

(3) That course of action which brings him into co-operation with his fellows, in the development of a social community, a result which becomes an "adjective of our organised existence."

And as example of the theoretic is given the intellectual act of apprehension, from mere perception up to imagination, and the products of activity, æsthetic, theoretic, which go beyond "practice," as desirable in themselves. Thus the act of perception or imagination of a horse is not practical because it has not brought the horse into existence, nor the contemplation of the ground I have digged—as a good work—"For I can hardly be taken to have altered the ground or myself, and to have given to them a new quality not owned before." And wherever there is a "revelation," there so far we go beyond practice.

The underlying assumption in regard to the practical seems to be that it is (as in Pragmatism) essentially the strictly utilitarian, subserving mere life, though Mr. Bradley does insist that no doing can be nothing but this. From the point of view taken in this paper, the line must be drawn between the first example, the act of digging the ground (as here understood, apart from possible transformation by meaning involved), and all the examples which follow. The digging may be an act which is (in the view I am taking) hardly practical at all, because the true will, the person, is not fully engaged in it. In so far as it has any reality it is not a mere change in the world of time and space, it may be a moment in a course of action which is, as a whole, the true expression of personal activity. But the alteration in the individual character, or the organisation of the social community, are real activities because there is in them the quality of creativeness, or the increase of that energy the development of which seems the nearest approach we can conceive to the ultimately real. In the creative factor

we find the meeting point between practical and theoretic. The instances of the typically theoretic given by Mr. Bradley are chosen as showing that the activity has not changed its object—there has been no creation in so far as the change is a revelation. “The pursuit of the beautiful and the true does indeed involve an alteration in personal existence, but this is not the essential character of the activity.” Without questioning the significance of the aspect which is here indicated as “revelation,” I would urge that all real experience, whether theoretic or practical, is characterised by the quality of creativeness, and that this implies the increase of value, value being that which is primary object of knowledge to the rational and personal consciousness. The theoretic, then, is not to be marked off from the practical as non-creative, for the ideal value which seems to be revealed to the knowing consciousness as eternal is nevertheless there as aspect of the creating movement of that spiritual reality which works through persons. But neither is the practical to be distinguished from the theoretic as devoid of revelation. For every moment of that increase of energy which is the creation of the practical movement is a revelation to the doer, who may be said from the empirical point of view (or as empirically estimated) to be working with forces, the tendency, direction and power of which are beyond his comprehension.* He is, indeed, drawing the infinite into the finite by his action and realising the finite in relation to the infinite in his knowledge.

As Signor Benedetto Croce observes, action involves at every moment that infinite possibility becomes actuality, and the standpoint here taken is, I think, in important aspects near to that of his practical philosophy (as presented in

* Cf. Croce: “The will becomes will of the unknown — . . . Our surprise when we come to understand the actions that we have accomplished is often not small, we realise that we have not done what we thought we had done, and have, on the contrary, done what we had not foreseen.”

Mr. Douglas Ainslie's translation). In attempting to put my view into relation with certain fundamental ideas of Croce (whose work has at least had the effect of an inspiration, upon my conception of the practical), I would begin by referring to some typical theoretic activities. On what ground can it be argued that they, in their full reality, are practical in the sense given? I am thinking of intellectual activity at a high level, as in scientific search, mathematical calculation, philosophic reflection. I do not mean that these are all practical in the exact sense intended by Croce when he says,* "The theoretic man is also practical—he lives, he wills, he acts, like all the others; the so-called practical man is also theoretical—he contemplates, believes, thinks." Here the two activities are evidently conceived as separate though united in one person. Or again, "Those works that had been assumed to be manifestations of the purely artistic and philosophic spirit are also products of the will, for without the will nothing can be done." This only shows that the will must be conceived as setting the theoretic process going at that level of reflection at which we separate will from thought. Croce's reference to the implication of theoretic elements in the practical seems to come nearer to a suggestion of the true nature of the relation. "Those works that had been looked upon as inspired entirely by the practical spirit, when examined more closely, are found to be exceedingly complex and rich in theoretic elements—meditations, reasonings, historical research, ideal contemplation." For in one and the same *work* (not only personal consciousness) both elements are here shown to be essential. As I conceive the relation, it is not only that no consciousness in our experience can be only theoretic or only practical, but also that no real work of consciousness can be the one without the other—consciousness in personal experience does not fully work except in a process which is both theoretic

* *Philosophy of the Practical*, Section I (i).

and practical, or in reality something prior in nature to the abstract experience of which these distinctions are characteristic.

Take as an example the labours of a Darwin, in the ceaseless collection of facts, in the hope of the discovery of an intelligible principle or reasonable mode of connecting these facts. The method is first to bring before the mind as many facts as possible under the condition of direct observation, actual experience. Then all the gaps are filled in by the scientific imagination, so that the whole process seems to lie before the mind, as if the time span were enormously extended or the individual able to move over the field of time, as over a field of space, step by step. If this ideal could be realised, the whole series there, as a complete chain of events or stream of changes, are we satisfied? The fundamental passion for knowledge of the cause remains. This, if analysed, becomes the desire to assimilate the whole process to that which is known in the real sense of knowledge, understood as moving in a way intelligible, because akin to the movement of mind. This is the truth of the principle of which all anthropomorphism is the mockery. And this, again, resolves itself into the spiritual necessity of creativeness. The mind must so comprehend the nature of the moment it grasps as to be able to proceed from that *re-creatively* through all the past and future which the life of that moment requires. It might be possible to show that the usual, if not the essential, origin of error is some loss of this creative element in the theoretic activity, a loss which occurs most frequently through the narrowing down of the activity, a degradation of its energy towards the level of that bare doing, that mere effort after maintenance of existence, or the utilitarian end which, in Mr. Bradley's estimate, is the typically practical. Analogous to this is the error of the practical in the more familiar sense. The true significance of the practical genius, the strong decisive will "that knows no doubt, that feels no fear," is in its creative power to move other wills, and so forward the process of increasing energy. But it

matters very much whether the decision is this way or that; the decision which does not make for progress (as here understood) is an act lamed by abstraction, the vision or insight into the nature of progress, or of the other wills with which the master will has to do, is lacking. These two kinds of defect are essentially one, since that increase of energy which is progress involves the realisation of the true relations of persons to each other in a development which will enable each and all to act creatively. But the source of this error is also most generally a degradation of the will towards pursuit of bare existence. Then is the will "sicklied o'er with the pale cast of thought," not the true thought which belongs to its real activity, but the false or weakened thinking which would deflect it from its native path. It is only the false practical which discovers for its own needs a false kind of theorising, by which in the end it is destroyed. Such is the error of the practical man who is dangerous because "he thinks too much," though not necessarily in Cæsar's sense, perhaps in a sense still more fatal to the cause of historic progress.

In Croce's philosophy it is clearly shown that the true practical has its own kind of thought, though the action may seem to take place without thought, because we cannot easily trace the theoretic element by our theoretic methods. His criticism,* however, of the position that "the will is the intelligence itself, that action well conducted is truth," seems to reveal a standpoint with which I am not in complete agreement. He points out that, "Intellectual light is cold, the will is hot With the greatest intellectual clearness we yet remain inert if something does not intervene that rouses to action." And with reference to the definition of the will as "thought in so far as it is translated into act, . . . or imprinted upon nature," etc., he observes that this "transforming, imprinting, that holding fast, which did not exist in

* Section I (1).

the simple theory, conceal precisely the will." Hence is practical activity a particular form of the spirit. Here the view I should take would be that both the intellectual light which is cold, the intellectual clearness which remains inert, and the "transforming, imprinting, holding fast," in which the essence of will is to be found, when taken apart, suffer from abstraction, and do not contain any moment of the real process in all its completeness. In the Third Section, however, on the Unity of the Theoretic and the Practical, I find very little from which I should differ, and if I understand this part of Croce's *Practical Philosophy* aright, much that I am endeavouring to express may be taken as a commentary upon it. For here this unity is understood in a sense which makes it impossible to state absolutely either that knowledge comes before will and action, or that will is the necessary precedent of knowledge, not merely as a "will to know," but as "a constitutive will, because knowledge is the remaking of a fact, an ideal re-creation of a real creation." And "both in action and thought, man is making himself finite to attain the infinite." Hence, "all questions as to the primacy of thought or will, the contemplative or the active life, thinker or man of action disappear."

To this I should venture to add that the consciousness of reality in personal experience appears to be bound up with the will. It is a kind of spiritual experience which may not be essential to all the experience of spirit, but is certainly so in the experience known to us. The root and original of this consciousness is the effort to pass beyond the condition of the degradation of energy, the resistance to that tendency to weakening which appears as the reduction of practical activity to mere doing, and of knowledge to the thinking which only subserves such doing. Every other form in which the sense of reality takes shape would be a shadow of this original experience. Thus psychology has described the sense of resistance as that which makes us aware of the external

world. Pure thought, bound up with the pure practical activity, would move entirely in a world of value. It is the experience of loss of value which occasions the effort which is will as ordinarily known, the holding fast, the grip, the affirmation. The sphere of thought which seems pure theory, remote from practice, *e.g.*, in mathematics or philosophy, is always in experience attended by effort of will. Yet in that sphere we know, perhaps, more of the nature of that thought which belongs to pure activity, the creative act is not concerned primarily with the increase of energy through relations of individuals. It is practical in the largest sense, the creativeness into which we gain insight is nearest to the original actualisation of the conditions for experience in space and time.

It is, however, rather on the basis of that experience which is commonly regarded as practical, and practical in a great, or supreme sense, than on the basis of the experience commonly regarded as theoretic, that it seems best to proceed in an attempt to estimate the nature of the real process which we partly know in experience. For in the thought which is a part of this practical experience, though further from that of a pure activity, we are more likely to find the clue to that practical process to which personal consciousness is necessary. The view of practical experience involved, or the conception of the proper point of departure, is as far as possible removed from that of Pragmatism. Or as Croce observes of his view of the relation between theory and practice, "from this bond . . . is obtained a pragmatism of a new sort, of which the pragmatists have never thought or at least have not been able to distinguish from the others and to give it value."

For the thought, which in Pragmatism is evolved first on account of the necessities of living, and the living to which it is enslaved, are alike mere extracts, broken pieces as it were, of the reality of which thought and practice are aspects.

To the understanding of this reality we are more likely

to approach if we take human history as our point of departure than if we take conclusions based on the study of life, or of consciousness as one amongst the special sciences. This is perhaps what Croce means by the observation that the summit of knowledge is "not Art, nor strictly speaking Philosophy, but History, the knowledge of the concrete real, that is the actuality of Philosophy." Life and consciousness are conceived by Pragmatism as in biology and biological psychology; they are not the moving forces of the world of practice as realised in history, and in those moments of consciousness in which the individual knows his experience as part of the universal process of history. When the theoretic intelligence is, in separation from the practical, surveying experience as spread out before it, in different departments, it is necessary for the purposes of that survey to contemplate each set of phenomena as though existing and occurring in severance from the whole, and, conceiving the whole as complex, to build it up architecturally out of these distinguishable elements, treated as simple. But such a procedure will not lead us to a philosophy or insight into the moving force of the whole process which is *ex hypothesi* excluded. In the system of Herbert Spencer we have a leading example of the outcome of such a procedure. In using the word "architecturally," I intend to signify that the process by which the Evolutionary philosophy would explain the place and relation of all the greater realities of human life to the lesser realities which are prior in origin (*i.e.*, from the genetic point of view), though described as growth, is not organic—for there is no organic relation between the values when they appear, and those life interests out of which they are supposed to evolve.

This fallacy of philosophic reflection arises from the application of that theorising in accordance with categories which is proper to the consideration of objects in abstraction from the whole—to the whole itself. Analogous to it, and resulting from the same tendency, is the fallacious attempt to find the

secret of the practical process, in the law of relation between phenomena arrived at by abstraction of one line in the totality of the movement from the full stream to which it belongs. Such a line in the activity of the practical is taken when the facts of the development of life are treated as furnishing the key to the nature of the process as a whole.

The hope, then, of attaining to a philosophy of the practical lies, as I think, in a treatment of history as our basis, history not in the form to which it is reduced by the scientific intelligence, when for special purposes of knowledge it is subjected, as far as possible, to the methods of science, but history prior to this abstraction, as the process of that practical spirit of which we have in our own consciousness a more direct kind of knowledge than in any other subject-matter. For however frequently and generally the abstraction may have been performed, each person is capable of resolving the parts again into the original fulness of the whole, through his own experience, and because this is the one case in which the severance of knower from doer can never be maintained. We never experience life which is not history, and which we can so divide from the historic process in ourselves (of which taken in its reality life is but a single thread) as to treat it adequately as an object like other objects of science. And when in the grasp of history we realise that it is truer to say that life follows because the forces working through history required this field of experience for their expression, than that out of life, when it had reached a certain degree of complexity, history arose or evolved. History is always with us, but the majority have to be awoken to its actuality by one of those experiences through which we realise that, in our own conscious activity, there is present the universal shown through time. To the presence in the individual of the universal conceived apart from time (or as instance of the timeless), we are more easily aroused. It seems to require some world-wide series of events or experiences, which, calling forth the creative

energy of the practical spirit with unusual intensity, draws every individual out of the unreal abstraction of his life into the central movement, to make the ordinary consciousness realise the universal whose differences are the successive ages and successive lives of persons, and to free it from the fallacy of the present, the illusory effect of that vivid experience associated with a special point in time.

Our chief leader in idealistic thought at the present time has expressed in emphatic terms his rejection of history in connection with his re-statement of the theory of the Concrete Universal. That the course of reflection indicated in this paper tends to a result so different seems to be due to the following reason:—Whilst the view is accepted that the reality of experience must be sought in the whole, and that it is therefore the task of philosophy to rethink much of the originally given, the experience of which the complete reality is sought is differently understood. Nothing can exceed the catholicity of Dr. Bosanquet's survey of human experience. Everything has a place in the Absolute. But it has its place as conceived by a reflection, which, in spite of the wealth of sympathy with the practical revealed in almost every page of the two sets of Gifford Lectures, still seems to remain outside the practical, because its point of departure is beyond. In the determination of that basic Hegelian view of logical thought as reality, was reality itself allowed an equal voice with thought? If this voice had been allowed, would there not have been avoided the sacrifice of that something fundamental to its being with which logical thought cannot deal, viz., the creative process of which time and change are essential elements, not merely phenomena? Philosophy, then, it would seem, cannot seek or find a completed totality, because the factor which involves incompleteness is incapable of transformation. If the truth of practice can be found, it will not be found by taking as the ideal, however qualified, the abiding object of the theoretic understanding. No manipulation of experience will restore

to it that actuality which it loses when the attempt is made to know it as reflecting this type. The thought which is a part of this actuality will certainly express it at every stage of the creative movement, in static forms, but the universals which these reveal are all subordinate to the universal of the movement. And this can never be fully stated, because its differences are only known as acted, consciousness being one in knowing and doing. History, then, is the starting-point, not as * "a reality consisting in the fragmentary diorama of finite life-processes, unrolling themselves in time, seen from the outside, a tissue of mere conjunctions—and yet not given, because a mere construction on the basis of the present," or as "a hybrid experience," "a doubtful story of successive events." This survey of history is a contemplation of it as object for an independent or detached subject. It is as though man were surveying the history of the amœba, or perhaps an intelligent horse the battle in which he falls on behalf of man's ideal of freedom or civilisation. The history which—it is here urged—when fully interpreted, with all its implications revealed, would be the ante-room of philosophy, is that process into which the conscious being has an insight, because it comes to pass through the creative action of a consciousness which works through him, as through all persons.

It is this character of consciousness as universal which is the ground of the universalising mode of thought, thought being an activity of consciousness. The difficulty, then of *L'Evolution Créatrice*, that error is introduced by this mode, would seem to vanish, or to present a less formidable obstacle to the comprehension of the real. Thought does not necessarily in transforming overmuch deform. The truth-giving activity of thought is, however, that which never rests in any one universal, nor even in the whole of universals, but is ceaselessly creative of fresh universals in relation to the practical

* *The Principle of Individuality and Value*, Section II.

energy of which it is an inherent accompaniment. To the same character of the consciousness which is the reality of experience would (on this view) be due the fact that it is at times when individuals are most actively aware of those lesser unities which connect them in some whole, as the unity of a nation, or of a common civilisation brought into being by the energy of many peoples and generations, that they are most capable of an insight into the nature of that creative process in which they are links.

VII.—SENSE-DATA AND PHYSICAL OBJECTS.*

By T. PERCY NUNN.

THE question of the relation between sense-data and physical objects has, during the last 15 years, frequently engaged the attention of this Society. It has also received much consideration elsewhere, Mr. Bertrand Russell's Lowell lectures on *Our Knowledge of the External World* and Mr. C. D. Broad's *Physics, Perception and Reality* being recent as well as very important instances. In raising the question once more I beg leave to refer to my contribution to a discussion† with Dr. Schiller under the title *Are Secondary Qualities Independent of Perception?* In this I argued, in opposition to the idealism of Locke and Berkeley, and more particularly in opposition to Professor Stout's doctrine of the "representative" character of sense-data, that colours, sounds, hotnesses and coldnesses may all exist although no one is perceiving them. A careful reader will observe that the main purpose of the argument was not to prove that they do so exist but to support the view that in any case they are non-mental entities. The philosophers I have named had all assumed it as obvious that sense-data *cannot* exist except in being perceived, and drew the conclusion that they are therefore psychical. My central aim was to destroy the force of this conclusion by disproving the necessity of the assumption upon which it is based. In other words, I wished not so much to preach a positive doctrine as to demonstrate the tenability of an hypothesis long deemed by the orthodox to be absurd. In that way I hoped to help in clearing the way for *any* "realist" doctrine of the physical world.

* The substance of this paper was given as an address to the Oxford Philosophical Society on November 30, 1914.

† *Proc. Arist. Soc.*, 1909-10, pp. 191-231.

At the same time I should be lacking in candour if I did not admit that I was (and remain) considerably impressed by the positive value of my arguments as well as by their destructive force! I am aware that they covered only part of the field and left many vitally important parts untouched. Still they have convinced their author, if no one else, that the hypothesis of the existence of unperceived sense-data is not only tenable but, on the whole, the most satisfactory theory of perception hitherto advanced; and this conviction, though I am prepared to abandon it for good cause shown, has not been seriously disturbed by later reflexion or by the results of other investigators.

The paper to which I refer has received a certain amount of notice. (I do not allude to Professor Alexander's much too generous acknowledgment of my services to the cause which is so justly identified with his philosophic activity.) One of the six American realists, Professor E. B. Holt, has sought, in a careful study,* to elaborate and substantiate the position that my theory of perception is not incompatible with the facts of illusory experience. His colleague, Professor R. B. Perry, has supplied an important defect in my case by giving, in reply to Dr. Schiller's challenge, a welcome analysis† of the notion of "independence." Mr. Russell, in his paper‡ on "The Relation of Sense-data to Physics," seems to indicate that my views had some influence in leading him to adopt his theory of "perspectives." But, although Mr. Russell prefers not to assume the hypothesis of unperceived sense-data, neither he nor, so far as I know, any other writer has directly criticised my arguments in its favour. On the other hand, Dr. G. E. Moore and Professor Stout, in the Durham symposium§ on "The Status of Sense-data," though they do not actually refer to these arguments, probably had

* *The New Realism*, pp. 303-373.

+ *Op. cit.*, pp. 99-151.

‡ *Scientia*, July, 1914, pp. 1-27.

§ *Proc. Arist. Soc.*, 1913-14, pp. 355-380, and 381-406. It should be noted that I follow Dr. Moore in using the term "sense-data" as a

them in mind. In any case their papers may be regarded as important re-statements of views I had sought to oppose. For this reason I intend to offer some criticisms of them from the standpoint of my paper of 1910.

I.

The points to which I shall restrict my observations concern the doctrine that physical objects must not be identified, either wholly or in part, with sense-data, but are revealed in perception as existences of which we have immediate knowledge that they are the "source" of our sense-data. Dr. Moore and Professor Stout both hold this doctrine, but assert it with important differences in detail, for different reasons and (apparently) with different degrees of conviction. It will be convenient, therefore, to examine their opinions separately.

In the case of Dr. Moore the task is facilitated not only by the extreme clearness of his conceptions and his exposition, but also by the frankness with which he explains his attitude towards the various theories of perception which seem to him, *primâ facie*, admissible. His method of procedure is, in brief, as follows: He supposes himself to be confronted with a florin and a half-crown, so placed that both coins are "visibly elliptical," while the florin is "visibly larger" than the half-crown. He then lays down five propositions about the coins, which *in some sense* must be taken to be certainly true. These are: (a) that he is really seeing them "in the ordinary sense of the word 'see'"; (b) that their upper sides are "really circular"; (c) that each has another unseen side; (d) that the upper side of the half-crown is "really larger" than that of the florin; (e) that both coins continue to exist when he ceases to see them. In addition, he states two principles which must be borne in mind in any attempt to

synonym for "the sort of entities given in sense," and in not limiting its application "to those which are actually given."

determine in *what* sense these fundamental propositions are true; they are (1) that the upper sides of the coins are not simply identical with the 'sense-data he is directly apprehending—for another person, directly apprehending different sense-data, may yet be said to be "seeing" the coins in the same sense as he is; (2) that knowledge of the five fundamental propositions is based, in the last resort, entirely on direct apprehension of sense-data and perception of the relations between them. He then asks what truths, in view of these two principles, the five propositions can be held to express.

To this question there are, he thinks, four plausible answers. The first is intended (I believe) to be the theory that physical objects are "permanent possibilities of sensations" in the form which Mr. Russell has given it. Dr. Moore treats this view with obvious respect, but finds in it a difficulty which compels him to reject it, namely, that, if we accept it, the propositions that the coins continue to exist when unperceived, that they are really circular, and that the half-crown is really larger than the florin, can only be interpreted in a sense "outrageously Pickwickian."

The second answer would assert that the coins he "sees" are to be identified each with a permanent "source" which has some particular causal relation to experience, and is either "spiritual" or of some nature utterly unknown. Upon this view the statement that the coins exist when unperceived would cease to be "Pickwickian," but the statements that they are circular, and that one is larger than the other, would require the same forced interpretation as before. It must therefore, be regarded as equally unacceptable.

The third answer is, so far as it goes, identical with the one I should myself offer, namely, that the "source" is not an "existence beyond" the visual sense-data, but includes the whole collection of such "sensibles" as could be directly apprehended by perceiving subjects under different conditions.

Against this view Dr. Moore raises only his former objection, that it makes the assertion of the circularity of the coins and of the larger size of the half-crown "very Pickwickian," though, as he observes, the difficulty in understanding these attributes of the "source" is not now the same as in the case when the source is regarded as of a spiritual or other unknown nature.

If, for the reasons given, the first three answers are rejected, there remains only one, "which is roughly identical . . . with Locke's view." This answer is not without its own difficulties, but it is the one to which Dr. Moore is inclined to adhere. It asserts that the physical object apprehended when we "see" a certain coin is a "source" which is not to be identified either with all or with any of the sense-data connected with it, and exists "in the natural sense" when none of these is actually the object of direct apprehension. But (and here is the Lockean touch) it is also circular "in the natural sense," so that it must *resemble* some of the sense-data in respect of their "primary" qualities. Finally, the experiences in which the various sense-data are directly apprehended are the ground not for mediate deduction, but for immediate knowledge that the source exists, and that it is really circular.

I need scarcely add that the foregoing paragraphs give only a bald summary of Dr. Moore's arguments, which the reader who would do justice to them must study *in extenso*. Moreover, I have, for the sake of clearness, deliberately omitted reference to one point of much importance, namely, that Dr. Moore, like myself, shares with Hume a "strong propensity to believe" that, under certain conditions, sense-data exist with all their qualities even when nobody is directly apprehending them. The assumption that they do so exist is, of course, the differentia between the first answer and the third. But for Dr. Moore, as for me, it is more than an hypothesis put forward as the basis of a theory; it is a strong prejudice, which necessarily affects his attitude towards all views of

perception. He finds in it a powerful contributory reason against the acceptance of the first of the four theories, and he feels at least strongly urged to import it into the Lockean theory to which he ultimately gives his preference. Thus, in his view, what I know immediately as the result of my observations of a half-crown is not only that there is a "really existent" source, "really circular," but also that the sense-data, which somehow derive from this source, are themselves (so long as the physical conditions remain unchanged) "really existent" in the same sense. Nevertheless, the sense-data form no part of the source or physical object; for the precedent argument has shown that they cannot exist together with the source in "physical space," but must be supposed to have their home in "private spaces" accessible only to individual apprehenders.

Now I should like to say at once that I have no objection to the notion of "private spaces" (or "perspectives"); on the contrary, I regard it as probably in some form a necessary completion of my own theory of perception. I did not bring it into my paper of 1910 partly because the scope of the paper was perforce limited, but chiefly because I had not the wit to conceive it as Mr. Russell has since done. The doctrine of relativity has shown that our ideas of space and time must be made much less rigid and much richer than we used to suppose; and Mr. Russell has proved that we may think of private spaces and times as so co-ordinated with one another as to yield all the properties that were formerly attributed to the two great "common receptacles" of our experiences and their objects. But it seems obvious that to add to a properly conceived scheme of private spaces (Dr. Moore does not deal with the question of time) a "physical" space not identified with, but standing in mysterious relations to, the former is a complication only to be justified by extreme theoretical necessity. What are the motives that have led Dr. Moore to load his universe with such an *embarras de richesse*? So far as

I can see there is one and one only : namely, his determination that a half-crown shall be "circular" in what he calls the "natural" sense. This, as we have seen, is, at bottom, the reason why he rejects the "possibilities of sensation" theory and the theory that sense-data spring from a source of "spiritual" or some unknown nature. It also appears to be the sole reason why he adds to what I may, for brevity, call my theory the Lockean notion of a "really circular" physical object. It is evident that a motive which wields such power over Dr. Moore's thought deserves careful scrutiny.

I agree that Dr. Moore's five fundamental propositions are straightforward expressions of the plain man's immediate knowledge about physical objects ; and I agree that, whatever happens, they must be regarded as true. The question is whether a given re-statement of one of these is to be rejected merely because the plain man would be surprised if told that it is equivalent to his own way of putting the matter. (That is what Dr. Moore appears to mean by calling it "Pickwickian.") My belief is that the plain man easily recovers from such shocks, provided the re-statement does not ignore the facts nor attempt to explain them away. Let me give a simple illustration. Observation of the sky for a couple of hours on a clear night will give anybody immediate knowledge that the stars are constantly moving from their places. When I recommend young teachers—men and women properly brought up in secondary schools and universities—to exhibit this truth to their future pupils they are almost invariably puzzled and confused. They do not, of course, doubt the facts, but they resent my "outrageously Pickwickian" way of stating them. When everybody knows that the stars are "really" at rest and the earth "really" revolving, is it not (they ask) almost immoral to allow a child to say that the stars move? Yet it is clear that the statement, as they prefer to make it, is really the "Pickwickian" rendering of the facts, and that they have ceased to feel it to be so merely

because it accords with a view of the stellar universe which they have been led by instruction to adopt.

It is a trite remark that science is full of such "Pickwickian" transformations of truths of observation and that progress is effected largely by means of them. Dr. Moore's paper does not fail to afford a remarkable illustration of this. Consider his statement that, when a dozen people are looking at a half-crown lying on the floor before them, each is, at one and the same moment, contemplating a "really elliptical" sensible situated in a "private space" and a "really circular" source which lies in a totally distinct "physical" space. Could any proposition be more startling to common sense? It has been known to throw even seasoned members of this Society into a state of unphilosophic astonishment. Yet it is simply Dr. Moore's way of rendering truths that he regards as obvious to everybody's inspection.

I urge, then, that Dr. Moore would have no right to reject the "possibilities of sensation" theory if it merely gave a "Pickwickian" interpretation to the truth that a half-crown exists when unperceived. The valid ground for rejecting it (or at least for regarding it with great suspicion) is that it ignores our strong propensity to believe that sense-data exist when unperceived; in other words, that it does not simply paraphrase the original truth but offers a substitute in which the original is not contained and from which it cannot be deduced.

Similarly, I do not think that either the second or the third of the four theories is to be rejected simply because it gives a "Pickwickian" form to the truth that the half-crown is "really circular"; the theories are to be condemned (so far as concerns this point) only if the proffered form is not merely "Pickwickian" but does actual violence to the original facts. The critical question is, therefore, whether this logical crime may justly be charged against the modes of interpretation which Dr. Moore has in view.

It would be easier to discuss this question if Dr. Moore had

told us precisely what is the "simple and natural sense" in which he believes a half-crown to be "really" circular and "really" larger than a florin. To deal with the second attribute first: Can it consist in anything more "simple and natural" than the fact that whenever the two coins are placed so that the centres of their faces coincide the florin leaves part of the half-crown uncovered? If this explanation of the meaning of the attribute—or its equivalent in terms of sense-data—is too "Pickwickian" for acceptance, I am utterly at a loss to know what to substitute for it; and I am confident that the plain man would share my perplexity. Can it be that Dr. Moore requires a *reason why* the florin fails to hide the half-crown? And does he consider the statement that the half-crown is "really" larger than the florin to be that reason, and not merely an alternative statement of the fact itself? If so, I can only suppose that by declaring the half-crown to be "really" larger than the florin he means (i) that when the two really circular surfaces of the coins occupy to the greatest extent possible the same place in physical space, there are parts of the surface of the half-crown which are not in the same physical place as any part of the surface of the florin, and (ii) that the converse of this statement is not true. Now this account of the greater size of the half-crown certainly differs *materially* from the former, for it contains no reference to sense-data; nevertheless it seems evident that the two accounts are *formally* identical. But, for one who holds Dr. Moore's views, to eliminate reference to sense-data can hardly be in itself desirable; for he still has the sense-data on his hands as extra-mental existences which must be accommodated in *some* sort of space. Assuming, then, that I have guessed his meaning correctly, I cannot see what he gains in "simplicity and naturalness" by invoking admittedly hypothetical "sources" in order to say about them something formally identical with what must in any case be said about indubitable sense-data.

Next with regard to the attribute of circularity. I can myself discern no departure from the "simple and natural" in the statement that by calling a half-crown (which appears at the moment elliptical) "really circular" I mean that it would appear circular if held in any one of a certain specifiable series of positions. (This statement is capable of expansion in terms of sense-data, but it does not seem necessary for my purpose actually to expand it.) In order that I may know that it is really circular it is certainly *sufficient* to know that it appears so when held in one of these positions. Moreover, the condition is also *necessary*. For, considered by itself, no one sensible appearance can tell us any more about the "reality" of the coin than any other. Unless I know, directly or indirectly, that the coin looks circular when placed in one of the standard positions, I cannot possibly know that it really is circular. Here, as in the former instance, I cannot see why Dr. Moore should be dissatisfied with an account of the matter which would, I believe, be accepted by the plain man as clear and sufficient. And again his invocation of a source to carry the attribute of "real" circularity appears to me a piece of superfluous ingenuity, creating more embarrassment than it can possibly remove. For while, from the assumption that the source resembles the circular sense-data in shape, we can certainly draw the conclusion that some of the sense-data are circular, it is equally certain we cannot deduce that others will be elliptical. If we must have a source at all I suggest that one (such as the spiritual source Dr. Moore rejects) which makes no pretence to explain the shapes of any of the sense-data is preferable to one which, by explaining some of the shapes, only makes us more acutely conscious of its failure to explain the rest.

To this objection Dr. Moore may retort that he invokes the source not to explain why the sense-data have certain shapes, but to explain why one of those shapes is believed to be "really" the shape of the coin; and that his theory is not to

be discredited because it does not do what it was never intended to do. To such a defence I should reply that, if the assumed circularity of the source can explain nothing except our belief that the coin is "really" circular, then it is a hypothesis deserving of extremely little respect. For the chief claim that a hypothesis invoked to explain a fact can make upon our confidence is that it brings into relation with this and with one another facts whose connexion was previously unknown or obscure; and persistent failure to do so generally justifies suspicion of its validity. I urge, then, that Dr. Moore should not ask us to accept his hypothesis until he has either found some further useful work for it to do or has at least demolished the view referred to in the preceding paragraph.

Finally, it is, I think, pertinent to ask why Dr. Moore applies his method of explanation only to the belief that the coin is "really circular." To my mind it is no more certain that it is, in some sense, "really circular," though it often appears to be elliptical, than that it is, in some sense, also "really silver-white," though it often appears to be of another colour. If "Pickwickian" expressions are, in the former case, to be ruled out, why should they be admitted in the latter? Unless a satisfactory answer can be given to this question we seem bound to suppose that the source is not only "really circular" but also "really silver-white," and the whole group of sense-data which have other colours is at once added to our embarrassing collection of inexplicables.

In the face of these difficulties the hypothesis that all the appearances of the coin are parts or aspects of the coin—some revealed under certain conditions, some under others—seems to me refreshingly straightforward and simple. I do not pretend that it has no difficulties of its own; but these seem to me to be due to the complexity of the problem; they are not introduced into the situation by the very form of the proffered solution. Again, I do not claim that it is a *complete* theory of the nature of physical objects. For example, in addition to a vast collection

of sense-data directly apprehensible by supra-human, human, and infra-human subjects and in addition to the perceivable relations between these, a half-crown *may*, for all I know, contain elements "spiritual" in their nature or of a nature "utterly unknown to us." It may be that such elements are essential to its character as a "thing," and it may be that they, or some of them, are actually "existentially present to consciousness" at times when sense-data are being directly apprehended. On the other hand, I can find no reason to suppose that these elements (if they exist) are the "source" of the sense-data, if by that is meant that the sense-data are not as truly parts of the thing as they are. And my consideration of Dr. Moore's belief in sources of this kind has only strengthened my scepticism.

II.

I turn to the consideration of Professor Stout's paper. As I have already said, he agrees with Dr. Moore in holding that sense-data are not to be regarded as identical with a physical object "or with any physical part of it," but *are* to be regarded, when directly apprehended, as giving immediate knowledge that they have their source in an "existence beyond themselves." Further, he shares Dr. Moore's view that our knowledge of their connexion with the source includes a knowledge of the nature of the source as being "in some respects akin" to the sense-data.

An examination of Professor Stout's position shows that it is not nearly so close to Dr. Moore's as the statement of these points of resemblance would suggest. The differences between them appear, indeed, to be profoundly significant and to indicate a gulf between Professor Stout's views and my own much wider than the one which separates me from Dr. Moore. Nevertheless Professor Stout's doctrine presents, I venture to think, a greater degree of logical coherence than Dr. Moore's, being free from the arbitrary complications to which I have called attention in the previous section. For example, Professor Stout does not

regard the correspondence between the nature of the sense-data and the nature of their source as restricted to certain sense-data only, but as extended, in accordance with a uniform principle, to all. Again, though he disclaims any propensity to believe that sense-data exist when unperceived, he brings such being as he allows them into close relations with the nature of the source. For him they are not (as they seem to be for Dr. Moore) unintelligible satellites of the physical object, tied to it by undiscoverable bonds. They are, so to speak, the means by which, from time to time, the source expresses its permanent nature to a percipient. The source may, therefore, be thought of as always including the nature of the sense-data in its own nature, somewhat as the printed marks in a book may be thought of as always forming words and sentences even when no one is reading them.

In this analogy the permanency of the source answers to the permanency of the printed symbols, while the fleeting sense-data correspond to the meaning—always potentially present but emerging into actual existence only when the book is read. In general, as readers of Professor Stout are well aware, his conception of the relation between sense-data and physical object inverts this comparison: the sense-data are fleeting and variable symbols; the physical object or source is their permanent and constant meaning. It is probably not rash to suggest that the idea of the relation between symbol and meaning has for years played a dominating part in Professor Stout's thought. He has used it (if I may say so without impertinence) in a masterly manner and with results of permanent importance. In the paper before us he has, I think, made some novel applications of it; but I am bound to add that these seem to me of very questionable validity. I gather that, in his view, sense-data are, from the first moments of experience, vehicles of meaning—meaning which consists, from the outset and all through, in reference to a source. But we must not think that in the beginnings of experience the reference of sense-data to a source is a reference to what the

experient will ultimately come to recognise as distinct things—people, furniture, trees, etc. It is initially a reference to the whole source of sensational experience. Only as experience develops does this total source, first glimpsed as what James called “a big, buzzing, blooming confusion,” become more or less definitely distinguished into parts in more or less definite relations with one another. The work of progressive differentiation and integration within the total source goes forward for a considerable distance under the stimulus of the conditions of ordinary life. It is carried on immensely farther by the systematic activities of the sciences. Its goal is an ideal situation in which all physical reality (including the parts that are vehicles of life and consciousness) would be known as a perfectly articulated whole, and every element of sensory experience referred to its special source in the nature of some distinguished part or aspect of that whole. But, even then, the reference of sensory experience to its source would still include that reference to the whole source from which its development started.

This is, I think, a fair paraphrase of an argument which Professor Stout develops at some length and in a very impressive and instructive manner. I shall have to inquire later whether the process he describes is correctly represented as giving a knowledge of sense-data as having their source in “existence beyond themselves.” For the present I wish to raise the narrower question whether his doctrine is self-consistent. For the sake of argument let us grant the assumption that when a new-born child first apprehends a certain succession of circular and elliptical brightnesses his mental activity includes a reference of his experience to a total source which is only later to be differentiated, *inter alia*, into a physical half-crown in varying spatial relations to his own physical body. My difficulty is in seeing that there is any real parity in the development of the reference in so far as it concerns the two terms—the coin and the body—respectively. For, though the direct

apprehension of the varying sense-data and their relations gives the child eventually, as Professor Stout claims, his knowledge of the real nature of the half-crown as a thing, it cannot be said to afford him any immediate acquaintance with the nature of his body. He gains from it nothing but the bare perception that the state of his body and its spatial relations to the half-crown somehow play a part in determining what appearances the coin shall present. Thus it cannot (for example) be contended that the blurred character of the visual sensibles of a short-sighted person "express the nature" of the myopic eye in the same sense as their forms and colour express (upon Professor Stout's theory) the nature of the half-crown. If it were so, then the physical coin must be a thing-in-itself whose nature is eternally inaccessible to direct experience. It would be still more clearly absurd to contend that the development of the child's reference of his sense-data to a source leads to any direct knowledge of the nature of the neural mechanism which functions in his body in the act of seeing.

This objection is so obvious that it is incredible that Professor Stout should have left his theory open to it (as I think he does) except for some very strong reason. He makes it abundantly clear what that reason is. As I pointed out in the 1910 paper, illusions and hallucinations are at least as great an obstacle to Professor Stout's theory of the representative function of sense-data (as he formerly stated it) as they are to my own realistic theory. Upon either theory (as I then said) "the differentia of sensational experience is that it presents me with data from which I may infer immediately the presence of an extra-mental existent or physical body. But how can this account be true if sometimes (as in hallucination) when sense-data are given the inference is incorrect? . . . Either the immediate inference must always hold good or else there is no inference at all, but merely such a coefficient of correlation between the presence of certain sensations in my mind and the spatial presence of certain physical things, that

in most cases, when I have the sensations, it is a safe shot to guess that the physical thing is at hand. But if there is merely this external relation between sensation and thing, we are obviously brought back to the old puzzle of how we know anything about the thing at all." The feature of Professor Stout's later exposition, which I am now discussing, is intended, as he himself indicates, to meet objections of this kind. It must be understood that he contends not only that sense-data always include a reference to the whole source, but, in addition (to quote his words), "first, that only part of the primary sensible through which we perceive a thing belongs to the thing itself; and, secondly, that even this part is not directly but more or less remotely connected with the relevant sense-experience." These positions granted, the difficulties presented by dreams and hallucinations can, he thinks, be satisfactorily met. For though in such cases we are impelled to believe that a perceived object exists and is present which, as a matter of fact, does not exist or is not present, yet the reference to a source beyond the sense-data has not failed. There are "physiological conditions" in the brain and sense-organ, and in any case there is the total source, and the reference may be taken to be directed to these.

I find it hard to believe that this explanation does not put a very severe strain upon Professor Stout's theory. However he may qualify it, the essence of his thesis is that sense-data are neither substantial entities nor epiphenomena, but genuine appearances or expressions of the nature of physical reality, and that, as sensational experience develops, we achieve through them genuine knowledge of the detailed structure or character of their source. How can his explanation of hallucination be regarded as compatible with this thesis? Macbeth is directly apprehending sense-data whose reference is, by hypothesis, partly to the total source, partly to the part of the source which we call his body, partly to a part of the source which we call a dagger. But there proves to be no

dagger there. Thereupon Professor Stout hastens to restore our confidence—rather badly shaken by this *contretemps*. It is true, he admits, that the sense-data which give its specific character to Macbeth's present experience are sensibles whose special business is to "refer" to daggers. They express the nature of the part of the total source which we call daggers, and are the only means by which we can know that nature. It is also true that on this occasion the reference has gone astray. It is a little provoking, but there is no reason for perturbation. The sense-data are there, the reference to the source is there, the specific part of the source to which the reference is specially directed is there. It simply happens that the last of these, instead of being a dagger, is, *pro hac vice*, the abnormal condition of Macbeth's perceptual apparatus!

Professor Stout is a thinker whose views one must always reject with caution, fearing lest the Johnsonian breadth of his common sense has given due weight to considerations which one has underestimated or overlooked. In the present instance, however, I must confess to an uneasy feeling that, despairing of a solution of the problem of error really consonant with his own methods, he has surreptitiously adopted those of another eminent philosopher.

"He thought he saw an albatross that fluttered round a lamp ;
He looked again and saw it was a penny postage stamp."

But such an incident gives no ground for doubting that perception is veridical. Were we not warned at the beginning that the reference of sense-data was always to the whole source, and are not albatrosses and postage stamps equally parts of that source?

I am bound, then, to register my opinion that Professor Stout has neither given a satisfactory solution of the epistemological problem of hallucinations nor strengthened his general position by his attempt to do so. I now pass to examine the relation between his theory of the source and the facts upon which he bases it.

It seems clear that the theory derives its plausibility from its connexion (1) with psychological theories of individual experience, (2) with physico-physiological theories of the mechanism of sensation and the physicist's general view of the material world. From the first of these Professor Stout draws his cardinal idea that sense-data are symbols pointing to existence beyond themselves; from the second the idea that this existence is a "source" consisting in an organised totality of elements which are (or may be) all involved in determining the content of any given moment of sensational experience.

That the content of perceptual experience includes a reference to something beyond the actual sense-data is without doubt true from a very early stage in the individual's life. It *may* be true of his very earliest experiences. Mr. MacDougall finds the phenomena of instinct inexplicable unless the sense-data which set the instinctive mechanisms in motion are already charged with meaning. Even Professor Lloyd Morgan, whose caution in matters of this kind is so well known, grants that such sense-data, upon their first emergence in consciousness, may carry, as it were, a faint aura of meaning. If this view is well founded, at least if Mr. MacDougall's form of it is true, it must have a very important bearing upon our theory of perception. Upon my principles it would seem to show that even the first appearance of a "thing" to a percipient may reveal more of the thing than is contained in the sense-data which form the core of the experience. This supplementary content may be of the nature of a form or schema to be filled up by subsequent sensational experience. If the thing has a special relevance to fundamental instinctive dispositions in the percipient, the schema may even have a specific (though necessarily vague) character. But I see no reason to suppose that it would have the character of a "source." By that I mean that it would be experienced as coming *together with* the sense-data, as a kind of framework into which they fit, but not

as their cause or origin. But if (as I think Professor Lloyd Morgan is inclined to hold) the meaning of the first appearance of the thing consists entirely in felt relevance to conational elements in the instinctive disposition, then this result would not follow. There would still be a schema, but it could not be said to belong specifically to the thing; the schema of the thing would be an *a posteriori* result of manifold sensory experience. Upon either view the relevance of sense-data to conational dispositions in the percipient is the condition which starts and maintains the process by which the schemata of the body and the thing become more or less clearly separated from one another, and become filled with detail in the manner which Professor Stout has described. At every stage in the process perceptual experience does indubitably contain reference, beyond the actual sense-data, to these schemata and the concrete details of their filling. But I can find no evidence in my own experience of a duplicated reference, that is, of a reference to a "source" in addition to the filled schemata. And it seems perfectly evident that the filled schemata which register the results of previous sensory experience cannot possibly be regarded as the source (in Professor Stout's sense) of my present sense-data.

I conclude that the argument from psychological observation and analysis leads to the notion not that the thing is a source or part of a source but that it is a scheme of necessarily connected sensibles. In what other quarter, then, can support be found for the theory of a source? The answer would seem to be: physical science, wherein the notion of a permanent "material substratum of phenomena" has achieved such triumphs. It will be necessary, therefore, to glance in this direction, however briefly. Speaking broadly, the most impressive achievements of physical science fall under one of two types or else under a third type which is a combination of these two. In the first the varying appearances of things and their behaviour as manifested through those appearances

are shown to be explicable as the result of changes in the spatial configuration of permanent entities which do not appear directly at all. The explanation of chemical phenomena in terms of atoms and molecules is an obvious instance of this type. In the second, appearances observed *here* are connected with appearances observed *there* by the postulation of a "continuous medium" connected with the "substratum" of both sets of appearances. The theory of the transmission of light will occur to every one as an example. Let us consider this type first. Examination of the use made of such hypothetical entities as "ether" and "electricity" shows, I think, conclusively that they are simply derivatives from the familiar things of common-sense *thought into* a context in which sensory experience cannot or at least does not actually disclose them.* If this is the case, then they must be conceived, upon my principles, as schemes of necessarily connected but unperceived sensibles—and so, I believe, they are. It is true that nobody inquires what is the colour of ether. This is partly because things, even as we know them, do not always have colour, but chiefly because the colour of ether, if it had any, would be irrelevant: unperceived sensibles which are not needed for the purposes of a theory may be ignored. On the other hand, certain kinds of sensibles are essential for the theoretical work which the hypothesis is to do, and those most assuredly are thought to be present. Similar considerations hold good with regard to the first type of scientific explanation. Take as an instance the experiments on Brownian movement which M. Perrin showed us a year or so ago at King's College. In these, microscopic particles of gamboge of uniform size were suspended in water and were observed to be constantly moving as if bombarded irregularly by invisible particles around them. It was shown that the distribution of the particles of gamboge was precisely what would follow from Avogadro's famous

* Cf. my papers in *Proc. Arist. Soc.* for 1905-6, 1906-7, 1911-12.

principle that the number of molecules in a given volume of a gas is independent of the gas's chemical composition, and we were asked to accept the deduction not only that water probably consists of discrete particles capable of relatively independent movement, but also that the kinetic theory of gases may be regarded as giving a true account of the nature of that form of matter.

Now I am not concerned either to affirm or to deny that "matter" really is composed of "ultimate particles," as these experiments and other recent ones so strongly suggest. My point is that, even if it is so, molecules (and atoms) are simply the molar bodies of everyday experience conceptually reduced in size. Whatever belongs to the latter may belong to the former also. The whole force, for instance, of the argument based upon the Perrin experiments depends upon the idea of continuity between the Brownian phenomenon and the molecular movements in gases. At what point in the reduction of the gamboge-particles to ultimate molecules are we to locate the tremendously important transition from things manifested through sensibles to things-in-themselves, incapable, not only in fact but actually in principle, of being revealed to any kind of perceptive faculty? The question is equally relevant when we consider the modern view of the atom as being itself a complicated system of electrons in relative movement. Here, again, physical speculation assumes complete continuity between the behaviour of molar bodies and of these ultimate constituents of matter. The once unitary atom becomes simply a solar system in small, and its theory a planetary theory, modified, it is true, yet based fundamentally upon the same conceptions as the old one. It will be objected that planets have qualities which no one has ever attributed either to the ancient atom or to the modern electron. That objection is easily met. Planets have these additional qualities because we encounter them in direct sensational experience, and not merely (as we encounter electrons) in the world of

theory. In the planetary theory they have just the same kind of qualities as electrons and no more : namely, those they must have if they are to serve as subjects of the mathematician's equations. If other qualities followed necessarily from the qualities assigned to electrons in theory, those qualities they would assuredly have—however inconvenient it might be to admit them.

I am, of course, aware of the common belief that physical theory has "accounted for" the appearances called secondary qualities by showing that they are consequences from the structure and behaviour of entities which are devoid of such qualities. My view is that this belief is unfounded. Given the facts (i) that the number of people killed in railway accidents in these islands is proportionately very small, and (ii) that the number in the year 1912 was 119, a statistician can deduce that (things remaining as they are) the annual death-roll from this cause would exceed 160 only about once in each period of 3000 years. He achieves this remarkable prediction without needing to attribute any specifically human qualities to the agents whose actions must combine to make it true. Has he therefore proved that they have none? If not, then neither has the physicist proved that his ultimate material elements have no other qualities than those postulated in the reasonings that "explain" the production of the conditions which appear to our perceptive faculty in the guise of secondary qualities. As a matter of fact I do not believe that physical theory seeks the result which is erroneously attributed to it. Its aim is (I submit) simply to carry as far as possible the work that common sense begins but lays down at the point where it ceases to be interested in it—namely, the work of analysing the history of the material world into the behaviour of "things" acting and reacting upon one another in definite ways. The hope which guides its efforts is that the analysis will terminate in the discovery of things so simple in their nature that further analysis is unnecessary, and governed in their behaviour by principles

that apply to all and are never contravened. It has found that the most profitable clue to the solution of its problem is to ignore some of the aspects presented by the things of common sense and to confine its attention to others. This is, no doubt, a fact of great significance, but it does not imply that physical analysis has ever reached an ontological plane different from the one upon which it began. In other words, it gives no support to the notion of a source of sensibles in the form in which Dr. Moore and Professor Stout hold that notion.

VIII.—SYMPOSIUM: THE IMPLICATIONS OF RECOGNITION.

By BEATRICE EDGELL, F. C. BARTLETT, G. E. MOORE,
and H. WILDON CARR.

I. By BEATRICE EDGELL.

IN his article, *Foundations and Sketch-plan of a Conational Psychology*,* Professor Alexander furnished us with the psychological theories which he conceived to be involved in his theory of knowledge. In the paper which I communicated to the Society in 1911-12, I stated the difficulties for cognition, and in particular for memory, which I found in that sketch-plan with its thesis that mental states can be enjoyed but never contemplated.

Mr. B. Russell does not support this thesis, but a cognate psychological error appears to underlie his theory of knowledge and to vitiate his teaching. He has no place in his theory of knowledge for past experience, save as the source of a specific group of data. He allows acquaintance with past objects and acquaintance with facts of past experience, but that is all. Learning by experience is a meaningless phrase with reference to the cognition which Mr. Russell portrays. It is true that mental development is a theme for psychology, and not for the theory of knowledge; but none the less, knowledge as theoretically described must be psychologically possible. To keep apart, as Mr. Russell would have us keep apart, knowledge by acquaintance and knowledge by description, we must regard what is known by the former as "given," in the sense that the past experience of the subject

* *British Journal of Psychology*, vol. iv.

can contribute in no way whatever to this known, save in the case where this past experience is itself what is known.

In demonstration of this point I wish to discuss (a) the recognition of a "this" in present experience as " x again," or, less definitely with reference to its specific character, as "had before"; (b) the awareness of likeness or difference between a "this" and "that" given in the present or immediate past.

(a) We may take the following quotations as showing Mr. Russell's view of sensation and sense-datum, and the physical world: "When I see a flash of lightning, my seeing of it is mental, but what I see, although it is not quite the same as what anybody else sees at the same moment, and although it seems very unlike what the physicist would describe as a flash of lightning, is not mental. I maintain, in fact, that if the physicist could describe truly and fully all that occurs in the physical world when there is a flash of lightning, it would contain as a constituent what I see, and also what is seen by anyone else who would commonly be said to see the same flash. What I mean could perhaps be made plainer by saying that if my body could remain in exactly the same state in which it is, although my mind had ceased to exist, precisely that object which I now see when I see the flash would exist, although, of course, I should not see it, since my seeing is mental. The principal reasons which have led people to reject this view have, I think, been two: first, that they did not adequately distinguish between my seeing and what I see; secondly, that the causal dependence of what I see upon my body has made people suppose that what I see cannot be 'outside' me."*

In the same article Mr. Russell tells us that he visited a cinema, to see whether M. Bergson was correct in likening the mathematicians' world to a cinematograph. On that point he was convinced. "What I wish to suggest is that in this

* *Monist*, July, 1915, "The Ultimate Constituents of Matter," p. 404.

respect the cinema is a better metaphysician than common sense, physics, or philosophy. The real man, . . . however the police may swear to his identity, is really a series of momentary men, each different one from the other, and bound together, not by numerical identity, but by continuity and certain intrinsic causal laws. And what applies to men applies equally to tables and chairs, the sun, moon, and stars.”*

Now suppose the constituent, “what I see,” of all that occurred in the physical world when there was a flash of lightning, could recur,—this is a possibility which Mr. Russell seems to admit—it would be numerically diverse from the first occurrence which has ceased; but in what other way could we suppose it different? If it could recur without involving the recurrence of all the other physical events in the universe with which it was simultaneous, it might stand, I suppose, in different relations to some of the events in the physical world from those in which it stood to the events which were simultaneous with it in the past. But such difference in relations would not affect it as a sense-datum. There would be, I take it, in such a case, qualitative sameness. If we accept Mr. Russell’s account of the first occurrence, how can we interpret awareness of “again,” “had before,” on the supposed recurrence? We accept the occurrence as a simple two-term relation, acquaintance with a sense-datum. What is the second?

Consistently with the standpoint of New Realism there seem to be two possible ways of answering this question. First, we may try to preserve the two-term relation wherein we had *s*, sensation, and *SD*, sense-datum. In this case *SD* is repeated unmodified, it is just the recurrence of the physical event. To modify it in any way, in virtue of the fact that it has been “sensed” before, would be to surrender the whole position. As a physical event it cannot

* *Ibid.*, pp. 402, 403.

matter whether SD has been seen once or a hundred times. There is a temptation to modify SD in virtue of the body concerned in the seeing, on the ground that the body is modified by the previous occurrence. But we have no more reason to assume that those events which constitute the body, at least so far as concerned in the incident, are different, than we have to assume that the physical event which we call the flash of lightning is different. We may suppose that they recur, and so leave theories as to brain-tracts on one side. If SD is unmodified, the only scope for change is in *s*. My "seeing" is different on the second occasion; this is where we must look for the influence of past experience. But no sooner have we said this than the artificiality of the separation between act and sensum, by which the one is mental and the other physical, becomes apparent. If "again," "had before," is the property of the act, how does it penetrate through to the sensum, for so penetrate it must if it is to become known?

Out of this impasse I can see no way for Professor Alexander; but from Mr. Russell's standpoint we can adopt an alternative view of cognition. We may argue that on the second occasion there is more than acquaintance with a sense-datum, that there is a very complex of acquaintances. We may bring in memory. By memory we can be acquainted with the first occurrence, and if we are to reach the force of "again," or "had before," this memory of the first occurrence must have added to it the memory of our experiencing it. "Introspection is necessary in order to understand the meaning 'past.'"^{*} "Normally, when we remember an event, we also remember our experiencing of it, but the two are different memories."[†] There must be, then, acquaintance with past acquaintance, and there is the acquaintance with the present sensum. Will this involve a further acquaintance called "the

^{*} *Monist*, April, 1915, "On the Experience of Time," p. 226.

[†] *Monist*, January, 1914, "On the Nature of Acquaintance," p. 13.

perception of a fact," viz., acquaintance with the likeness of the past acquaintance to the present sensum? That cannot be, for there is no such a likeness; an acquaintance cannot be like a physical event. If there is to be a perception of likeness we must amend our terms; the likeness must be between our acquaintance with the past occurrence and *our acquaintance with the present sensum*. We shall be in a position to predicate "sameness" or "had-beforeness" of our being acquainted, *i.e.*, of the act. We are thus relieved from the difficulty special to the first theory of recognition. But can we go further and transfer the relational predicate from the act of being acquainted to the sense-datum? I presume this must be our goal, because otherwise how are we to carry out the programme put before us somewhat light-heartedly by Mr. Russell? "When we see a white patch, we are acquainted in the first instance with the white patch; but, seeing many white patches, we easily learn to abstract the whiteness which they all have in common, and in learning to do this we are learning to be acquainted with 'whiteness.'"^{*} I can find no theory of the transference in question and I can make no further progress.

Since the problem of recognition, even for "qualitative sameness" in our sensum, has introduced acquaintance with a relation, we may now turn to this question. Starting afresh, we may consider what is involved when the fact for perception is a likeness or difference between sense-data.

(b) "*a* is like *b*," or "*a* is different from *b*," is a complex fact, according to Mr. Russell, and "there are, theoretically, two ways in which it may be known: (1) By means of a judgment, in which its several parts are judged to be related as they are in fact related; (2) by means of *acquaintance* with the complex fact itself. . . . Now . . . the second-way of knowing a complex fact, the way of acquaintance, is only possible when there really is such a fact, while the first way,

^{*} *The Problems of Philosophy*, pp. 158, 159.

like all judgment, is liable to error. The second way gives us the complex whole, and is therefore only possible when its parts do actually have that relation which makes them combine to form such a complex. The first way, on the contrary, gives us the parts and the relation severally, and demands only the reality of the parts and the relation: the relation may not relate these parts in that way, and yet the judgment may occur.”*

If we treat “*a* like *b*,” or “*a* different from *b*,” as a complex datum after the pattern of a simple sense-datum, there will be no question of truth or error, but the acquaintance in question will lead to nothing beyond itself. A hundred and one such acquaintances will not take us towards knowledge of universal resemblance or universal diversity, our knowledge of which is said to require “more power of abstraction” than the universals of sense qualities referred to above. The acquaintances in question being two-term relations, there will be nothing to abstract. If we treat “*a* like *b*,” “*a* different from *b*,” as a judgment, then, according to Mr. Russell, we shall have *the parts and the relation severally*. But what exactly does this mean? What are these parts? Are they the sense-data with which we are acquainted? I am inclined to think that the answer is in the negative, from the following passages. In discussing the case of colour A being indistinguishable from colour B, which in its turn is indistinguishable from colour C, while nevertheless colour A is distinguishable from colour C, Mr. Russell says, “It tends to be supposed that the colours, being immediate data, must *appear* different if they *are* different. . . . But this does not follow. It is unconsciously assumed . . . that, if A and B are immediate data, and A differs from B, then the fact that they differ must also be an immediate datum. It is difficult to say how this assumption arose, but I think it is connected with the confusion between ‘acquaintance’ and

* *The Problems of Philosophy*, pp. 211, 212.

‘knowledge about.’ Acquaintance, which is what we derive from sense, does not, theoretically, at least, imply even the smallest ‘knowledge about,’ it does not imply knowledge of any proposition concerning the object with which we are acquainted. It is a mistake to speak as if acquaintance had degrees: there is merely acquaintance and non-acquaintance.

... To know that two shades of colour are different is knowledge about them; hence acquaintance with the two shades does not in any way necessitate the knowledge that they are different.”* “When we are considering the actual data of sensation in this connection, it is important to realise that two sense-data may be, and *must* sometimes be, really different when we cannot perceive any difference between them.”†

Let us consider the relation and see whether it can throw light on the parts. Mr. Russell’s criticism of Meinong is relevant in this connection, but may perhaps be considered too ancient in date to be cited now. He criticises Meinong’s statement that “objects of higher order”—relations and complexes—necessarily involve the terms or objects on which they are founded. Indeed, for Meinong it is this very “innere Unselbständigkeit” which makes them a special class of objects. “Die innere Unselbständigkeit nun . . . hätte sich auch so beschreiben lassen, dass man es da mit Gegenständen zu tun hat, die sich gleichsam auf andere Gegenstände als unerlässliche Voraussetzungen aufbauen . . . Es ist eine ausnahmslose Gesetzmässigkeit dass ein Gegenstand, der in irgend einem Falle ein Inferius gestattet, solcher Inferiora unter allen Umständen bedarf. Dagegen ist die Eigenschaft, ein Superius zu haben, also ein Inferius zu sein, in keiner Weise allgemein charakteristisch.”‡ Mr. Russell objects, first, that the doctrine is based on logical priority, and that this is an obscure notion, and

* *Our Knowledge of the External World*, pp. 144, 145.

† *Ibid.*, p. 141.

‡ *Z. f. Phys. d. Sinnesorgane*, Bd. XXI, s. 190.

one which careful criticism tends to destroy; secondly, that if any two terms have some relations, the relations they do have are as necessary to them as they (the terms) are to the relations. "A third objection is that relations, though not complexes, appear to be capable of being thought apart from terms. If the impossibility is meant only in a psychological sense, it is probably true that most people find a difficulty in so thinking, though even then it is not any particular terms, but only the notion of some term, that is required. But it would seem that diversity, for example, or logical implication is a simple notion into whose composition the notion of terms does not enter, and that to learn to think such a notion in itself is a feat which can be accomplished by practice."*

Are we to suppose this feat accomplished when we have a judgment, and that we thus import into our perception of likeness or difference between *a* and *b*, the universal relation of resemblance or diversity? (We should have subsequently to abstract it by sleight of hand when giving an account of its origin.) But even so there would be nothing for this relation to relate; it could not relate the sense-data, supposing these were the parts intended, for it is in no sense their relation.

From the discussion at the symposium on Mr. Russell's Theory of Judgment (July, 1915) I gathered (*a*) that Mr. Russell had changed his views as to the nature of judgment, (*b*) that he no longer recognised facts of perception as admitting of truth or error. If this means the abandonment of what has been quoted on p. 183 as the first way of knowing, all that I have said about it is irrelevant, but in that case we are left with the second way—the way of acquaintance—and by this way there is no passage to anything beyond the unanalysed sense complex.

The contention that facts of perception do not admit the distinction true and false would create difficulties. Mr. Russell can reconcile differences in perceptual judgments dealing with

* *Mind*, vol. xiii, N.S., "Meinong's Theory of Complexes and Relations," p. 209.

distance and form by his theory of private space and prospective space, but I can see no method of reconciling those differences in judgments of likeness and difference which arise from what is called "improvement in discrimination."

Two sense-data, say two grey patches, are perceived as "alike." The grey patches are given again and perceived as "different." The latter judgment is what is commonly termed more accurate. What explanation is there for the change in judgment? As we have seen, there is for Mr. Russell no possibility for modification in the sense-data in virtue of past experience. The organism may be brought in as explanation. It may be claimed that on the second occasion there is greater adaptation in the eye and thus the *a* and *b* are different sense-data. Upon such a line of argument every advance in differentiation, by which finer differences in colour, tone, touch, etc., are known, must be regarded as depending solely on changes in sense organ or nerve system, and as nothing more. Past experience as such counts for nought. There is nothing to differentiate those perceptions which we improperly term "more accurate" from others, save this difference in the bodily condition. It does not assist us to refer to different degrees of attention in the act of being acquainted, to distinguish "obscure" from "clear" perception. What can clearness or obscurity mean with reference to acquaintance? Mr. Russell at any rate does not attempt to make use of such distinctions. "It is a mistake to speak as if acquaintance had degrees."

We may go back to our original problems and ask Mr. Russell's own question: "What sort of data would be logically capable of giving rise to the knowledge we possess?"*

If the universal relation be not imported from the unknown as "given," it must be constructed by thought from the judgments of perception. Any judgment of perception which is to render such a construction possible will, upon analysis,

* *Monist*, April, 1915, "On the Experience of Time," p. 222.

bear witness to the influence of past experience, not merely on the act of cognition, but on the sensum. It is my previous acquaintance with *b* which changes a hypothetical simple *a* into "*a* like *b*." It does not avail to say it is my acquaintance with *a* that is changed. It is the *a* itself which is different from the sensum it might have been had there been no experience of *b*.

Some one may object that *a* and *b* can be given simultaneously and that in such a case it is absurd to refer to past experience. At the simple stage of cognition which we are trying to imagine in order to render any discussion of sense-data possible, simultaneity of awareness of *a* and of *b* in such a manner as to yield the knowledge "*a* like *b*" would be an impossibility as well as an absurdity. The influence of past experience here is of the immediate past, but the principle involved may be applied to any "it" of present experience which is qualified by perceptual judgment, be the judgment one of recognition or of likeness or of difference. The universal which analytic thought could construct from such simple judgments as "*a* like *b*," "*c* like *d*," etc., is a certain qualification in the "it" of present attention—the *a* or *c*.

Unless the relation is founded in every case on the terms related, its truth or falsity will be irrelevant for those terms. Reference has been made to the difference between Mr. Russell and Meinong with regard to the dependence of the superius on the inferiora. In the present connection it is interesting to recall Meinong's conception of "the prerogative of difference" and of the "Wahrnehmungsforum."* By the tribunal of perception Meinong meant all the inner and outer circumstances (exclusive of that which was to be perceived) upon which the nature of what he termed "the content" depended. Past experience would be among the most important of the inner circumstances. Without regard to some such conception of a tribunal, it is difficult to accept the "prerogative of difference."

* *Abh. z. Didaktik u. Philosophie d. Naturwissenschaft*, H. 6, "Ueber d. Erfahrungsgrundlagen unseres Wissens," § 22.

Meinong lays it down as an axiom that a judgment of difference between sense-data is to be accepted as truer than a judgment of likeness. Given past experience as a condition of finer discrimination, the "prerogative of difference" becomes intelligible.

In conclusion I will restate my thesis. Mr. Russell's theory of knowledge fails in that it allows no place for retentiveness, as distinguished from definite memories, which failure arises from the attempt to analyse the simplest cognitive experience into a two-term relation, viz., mental act and physical reality.

II. *By* F. C. BARTLETT.

Questions of history are often confused with questions of analysis. If I have a completed construction I may try to enumerate the parts, to describe their differences, and to render an account of their relations within the whole. But I may also take the way in which the construction comes about. I may ask: "How does a part come to assume this form rather than another?" "Under what condition is this sort of result to be secured?" If I do this I shall almost certainly have to refer to matters that were lacking from the first analysis. And it is no valid criticism of the analysis to say that it leaves us without an account of how the factors that it indicates have come to be what they are.

To object that a theoretical account of knowledge as a construction does not give any description of the processes by which we may pass from one to another of the different relations that such analysis reveals, is to confuse questions of history and questions of analysis. It seems to me that Miss Edgell does not wholly succeed in avoiding this confusion. Retentiveness is no name for any actual part or relation of knowledge considered as a structure, any more than mixing is a name for something that analysis would actually reveal in a completed pudding. It merely expresses the most general condition under which there can be any continued process of

knowing at all. "Retentiveness," "modification," "improvement," are all words that play a great part in Miss Edgell's criticism. They are condition-words, process-words, not analysis-words. As well might it be brought forward against them that they do not make clear the nature of the relations that cannot be secured without them, as it may be urged that a descriptive account of these relations does not show how the relations are themselves secured.

From the point of view of analysis all the fundamental questions are problems of definition and description: What is perceiving? What is remembering? What is recognising? What is judging? From the point of view of history all of the questions are problems of condition: Under what conditions do we get this form of perceiving? How does remembering arise?—and so on. The second set of questions obviously presuppose some answer to the first. Fortunately, we can tackle them before complete agreement has been secured concerning the answers to the problems of analysis, for it is remarkable how very few questions beginning with "what is" ever do secure final answers.

Again, suppose in my analysis of a certain completed whole I discover a and b , and I so characterise b that it must be said to be something quite new, even though it is often found in close connexion with a . It is surely unfair criticism to say that all this does not show how b can develop out of a . No such problem of development would arise for me at all. If, for example, I say that "knowledge of" and "knowledge about" are radically different, I fail to see why anybody should complain if I make no attempt to show how "knowledge about" is based on "knowledge of," or why it should be said that my view makes it impossible that they should ever be found together within a single mental act or relation.

It seems to me that a good deal of the criticism in the first paper is beside the point in this way, and though I might possibly agree that the sort of analysis that Miss Edgell

would give of the facts under discussion, if she were concerned to make the attempt, would be more complete than the account she is considering, I do not admit that her objections to that account are well directed.

But putting aside now this general difficulty, the view she is expressing does not appear to be at all thoroughly worked out in some of its detail. There is one sense in which analysis *may* recognise retentiveness. It may say that, whenever there has been a relation of a certain kind, a relation of a certain other kind is made possible. For instance, it may assert that, wherever there has been a relation of perceiving, there, and there alone, the relation of remembering is possible. This would admit what is meant by retentiveness. Miss Edgell seems to think that this is not enough, however, and that we must have explicit recognition of what is called modification of sense experience. It is not clear either what, exactly, this modification is, or why we have need of it for the cases under consideration.

We are to begin with the experiences of "had before" and "this again." Both of these are, of course, much too definite to use merely of retentiveness. If we tried to find a phrase to express what retentiveness might mean from the point of view of the subject's attitude, we should have to use some such expression as "had something before," where the something remains without any further specification. Usually we express what this comes to in terms of observed behaviour, and that appears to be right. We say, "When a series of actions has been repeated once or twice its performance is facilitated." Maybe the inner side of facilitation is what we call feeling of familiarity, and this is somewhere at the basis of the process that becomes definitely remembering and sometimes recognising.

Suppose I hear a series of tones produced in a certain order. After an interval I hear the same series again. My hearing on the second occasion may be what we mean by

"easier," but I do not see how that calls for any supposition whatever with regard to the modification or non-modification of a sense-datum or a group of sense-data. It is, however, a case in which retentiveness is present, and gives one of the simplest instances of learning by experience.

And when we advance to the more definite cases of "had before" and "this again," I do not see that any alteration need be made in the nature of the analysis. "Had before" might refer merely to the relation or act. It might simply mean "another case of hearing," or "another case of seeing." Here, clearly, there is no reason whatever why we should maintain, in Miss Edgell's pleasant but entirely uncalled-for phrase, that the property of "again" must "penetrate through to the sensum."

"This again" may seem likely to offer greater trouble. But, to begin with, nobody who was not very anxious to find difficulties would feel concern over a supposed view that either in "this again" or in "had before" we have a single, self-contained two-term relation. Certainly what we have may be called a two-term relation between remembering or recognising and what is remembered or recognised; but that is possible only because there has been, as a matter of fact, already what may be called a two-term relation between perceiving and what is perceived.

For we can say that wherever there has been a relation of perceiving, there, and there alone, a relation of remembering is possible. It must be added, I think, that wherever there is recognition proper, there, whether in the form of a specific act of remembering or not, a factor having its basis in remembering is present. Hence in the case of "this again" there is at least the perceiving of "this," and also at the same time recognition of what for the present I call "something," this recognition being possible only because the relation of remembering to that "something" is also possible.

We must therefore consider the relation of remembering.

I see a light, and suppose that the event may be analysed into the relation of seeing and the sense-data which constitute what is seen. The former is mental, the latter are physical in the sense that they would come into the description of a physicist who was asked to deal with all in the event that was relevant to his interests. To call the sense-data physical is by no means to prejudge the problem as to whether they are the *only* physical data necessary.

There has been perceiving, hence there may be remembering. Suppose there is, I do not see that what is remembered must be said to be the sense-data, or the having of the sense-data. I say: "I remember the light." I may be asked: "But what *of* the light?" Then I describe it, its intensity, its shape, its colour perhaps, and so on. Probably it is there in remembering, if at all, that the relation is to the sense-data. But it seems to be different when I simply say: "I remember the light." There, rather, is a relation of remembering to a physical object.

It may seem as if this is to bring into remembering something not present in perceiving at all, and to affirm that we can remember that which up to the present has never played any part in experience. But this need not be the case. It is quite possible to hold that the relation of perceiving is such that it cannot occur apart from the presence of sense-data, but that the relation of remembering is such that it can. There does not seem to be any reason for supposing that once a relation to an object has been secured, all further cases of relation have to be secured in just the same way.

There is one case of remembering that is specially interesting. Particularly when what we remember is a shape, or a colour, or an appearance of brightness, or anything of that sort, what we call an image is often present. Perhaps at first the image is always present; certainly with us it often is. We can no more say *what* an image is than what a sense-datum is, no more say *how* it arises than how a sense-datum arises. But we can say

that as a relation of remembering is impossible unless there has been a relation of perceiving, so an image cannot arise unless there has been some particular sense-datum or group of sense-data. And it may be the case that as, in perceiving, the sense-data are related to the object, so in remembering, in these instances, is the image related to the object. Then, strictly, what we remember and what we perceive are identical. There is no question whatever of again-ness or of before-ness qualifying a physical object.

We come now to recognising proper, to the real case of "this again." What we have are: (*a*) at least two relations of perceiving, (*b*) a relation of remembering, (*c*) the possible presence of imagery. Also, from the point of view of process, the second perceiving is easier, or is facilitated. Why should we not say that facilitation is the primitive condition under which a relation of remembering and an image are both most likely to arise? Then upon the second occasion of perceiving, I may remember the object, either directly, or indirectly by the help of an image. In "this again," it is the "this" that refers to the object. The "again" indicates: (1) that there is remembering, (2) that the occasion of remembering is here given by a present relation of perceiving, and (3) that quite generally remembering requires a basis of perceiving. And I do not in the least see that all this necessitates any "modification" whatever in the sense-data.

It may be urged that the reference to a physical object is speculative, unnecessary and unfounded. I believe that it can be very well defended, but if, keeping within the borders of experience itself, we try to rule out reference to an object of this nature, and to see how far we can get along without it, still I see no reason why we should not have recognition apart from modification of sense experience.

I have a relation of perceiving, *P*, in which what is perceived is a series of sense-data *a*, *b*, *c*, *d*. As before, whenever the relation *P* is repeated, facilitation is possible, and eventually,

under normal circumstances, is certain. To the observer, this facilitation would express itself simply in the quicker performance of *P*; to the subject, in a characteristic feeling, by no means to be reduced to sense, accompanying *P*. But as sense-datum, *a* is not changed in any way because the passage of seeing is now made more quickly to *b*, or because it now occupies a different relative position in regard to *b*, or because it now possesses what we call "acquired meaning." Considered as sense-datum it may be exactly what it was before. And when I say "*abcd* again," all that I mean is "here is another case of perceiving into which the same *a, b, c, d* enter." So far as a psychological principle is concerned, I should maintain that it is just the characteristic feeling accompanying facilitation, a feeling in no way to be reduced to any supposed modification of sense experience, which gives us the primitive condition under which a present relation of perceiving may come to be part only of a present relation or process of recognising.

Apart from all this it is hard to see what modification means at all in this connexion. If a sense-datum is taken as an unanalysed particular—though as a matter of fact, of course, it may still have parts—modification seems to come to complete "otherness." For the sense-datum is either *a* or not-*a*. It cannot be "*a* in part." And if a group of sense-data is taken as a whole, any modification simply means "another group." It would then follow that in all cases of "this again" we have two sense-data or groups of sense-data, and a difference between them which goes unperceived. No doubt this does happen, but, so far as the theory of the matter goes, there seems to be no reason why it should be extended to cover all cases.

It may be said that modification has obviously to do with the complex. A whole is modified when, though some parts are changed, other parts remain the same. This, however, gives a case of qualitative difference, and the attitude of "*b* is like *a*," or "*b* is different from *a*."

And that leads to the second of the problems that Miss

Edgell proposes. Difficulties just the same in nature as those that have been discussed already arise here also. It is supposed that repeated experience of my seeing a red light, for instance, changes the sense-data involved so that instead of a simple a , I get " a like b ." Why should we not have an analysis of exactly the same sort as before? I see b , a particular set of sense-data. Because there has been the relation of perceiving b , there is also possible the relation of remembering b . I now see a , another set of sense-data. But set a appears to be qualitatively identical with set b . There is facilitation, and, either indirectly through an image, or directly without an image, a remembering relation to b occurs. It is not merely "sameness" that is perceived—that never is possible; it is not perceived, strictly, "that a is the same as b "; what is apprehended is "the sameness of a and b ," and that is possible just because we have here the conditions under which a present act of remembering and a present act of perceiving come together in relation to a set of sense-data that appear to differ numerically only. It is fairly obvious that "the sameness of a and b " involves no question of truth or of falsity.

When difference is observed exactly the same holds good. There is no perceiving of mere difference, no perceiving "that a is different from b ," but only of "the difference of a from b ." We do not, properly speaking, perceive relations, although we may perceive instances of relation.

When we do perceive such instances there is no necessary changing of a sense experience a into a "modified" sense experience " a like b ." Relation, whether it appears as a particular instance, as in perceiving, or whether its true general nature is recognised, as in judging proper, never can be reduced to terms of sense experience. In perceiving it never is entirely detached from sense experience; in judging it may be. If we consider the a that enters into " a like b " there is no reason why it must be different from a simple a .

The apprehension of "difference of something from something" may be possible under very primitive conditions. It may

be that whenever there is hindrance or block in an act of perceiving the attitude "something different" arises; just as whenever there is facilitation the attitude "something like" or "something the same" arises. The specific feeling of the block or of the facilitation marks the case of difference or of similarity. But in neither case is there any apprehension whatever of a relation beyond a particular context, or that a relation may go beyond a particular context, though as a matter of fact no relations ever are a matter of a particular context.

The case of improvement in discrimination certainly does offer difficulties. There is one instance, however, that may be fairly common. I have a relation of perceiving to the group of sense-data abc and another to the group ab . The second gives just one of the cases in which, in the way I have already described, a relation of remembering to the first is likely to arise. Then, either in imagery or by direct remembering, I may pass from ab to c , and may fairly be said to perceive the sameness of abc and ab , though as actual sense experiences they differ.

If, however, we concern ourselves merely with a theoretical analysis of knowledge it does not matter very much *how* things happen. There is nothing in the meaning of difference or of sense-datum that makes it necessary that the difference of different sense-data should be perceived whenever the sense-data are perceived. And the same is true of sameness. For though a perceived difference or sameness is always difference or sameness of something, and is never divorced from the perceiving of sense-data, it is not itself a sense-datum.

But all that has been said so far does not help us to get to what is ordinarily meant by "improvement in accuracy." It certainly gives us a basis for progressive apprehension of detail in perceiving, through facilitation, remembering and recognition; and it seems probable that, so far as perceiving proper goes, that is all that learning by experience means. "Improvement in accuracy," however, indicates that the ways in which we state that things which are related to one another

come to be more often true than false. That gives us judging, and some propositional form, such as "that a is the same as b ," or "that a is different from b ." In such cases we really pass beyond the sameness or difference of a particular context, to an apprehension of the fact that relations may occur in any context. It is irrelevant to say that we have not shown how this relation grows out of the other, and it is wrong to urge that because judging apprehends the universal nature of relations, and may even, on occasion, give us termless relations, whenever there is judging there cannot be terms.

All that analysis does is to say: Here are perceiving, remembering, imaging, recognising, all, in their simple forms, direct ways of referring to what is experienced. Here is judging, indirectly referring to objects or to sense-data by setting them in relations, and able to apprehend that relations do not depend on the terms related. With judging truth and falsity come in.

But how, given a situation, *first* a false judgment is passed, and *then* a true one, that is not a problem for analysis at all. Even supposing it were, however, it is surely obvious that improvement can in no sense be said to be in simple dependence on past time. Repetition in experience gives rise to a good many illusions, and only sometimes makes accurate interpretation possible.

If the prerogative of difference is simply accepted as ultimate, there is, of course, no question of how it arises. If we take it as something that itself has a history, we may perhaps trace it to: (1) the fact that there is actually no apprehension at all without an apprehension of "the difference of this from that," or of "something from something," (2) to the tendency already mentioned for repetition through facilitation to lead to the apprehension of more and more detail, (3) to a consideration of the fact that we have no reason to suppose that any sense-datum that enters into experience is really simple. The third consideration in itself would give a

theoretical prerogative of difference. The first and second would give conditions under which this prerogative might come to be realised.

I am rather inclined to doubt, however, whether the prerogative of difference amounts to anything more than that we ordinarily feel less surprised when things that we judge to be the same turn out to be different, than when a judgment of difference has to be reversed. As a matter of fact, many judgments of difference have to be reversed, and I think there is some evidence to show that under more primitive conditions this sort of reversal is fairly frequent. Perhaps a sufficient basis for this feeling is the fact that repetition in experience commonly does lead to the apprehension of greater detail, or to a regrouping of detail. Further, it is obvious that while any change whatever is enough to alter a judgment of sameness into one of difference, from the point of view of difference merely no additional change is important. There is only one way of being the same, but there are innumerable ways of being different.

And then, after all, the very difference that we speak of when we illustrate "prerogative of difference" involves some sameness. For the difference is always one capable of being expressed in a proposition of the form "that this is different from that." And if such a proposition is to possess any sort of validity it carries with it also an apprehension or a judgment of sameness: "that the *this* and *that* now judged to be different are the same *this* and *that* that were formerly called the same."

In conclusion, leaving merely theoretical analysis on one side, I wish to try to state how I believe "knowledge of" and "knowledge about," perceiving and judging, to be actually related in experience. Theoretically they are absolutely different. Practically they are united within almost any total act of reference to an object. In all the instances that we commonly meet with, there is analysis of what we perceive.

The analysis yields particular instances of relation ; a "sameness of this and that" or a "difference of this from that." But in perceiving, the sameness and difference never get away from their particular context. We have, however, the root fact of experience that, when once the group of sense-data *abcd* has been perceived—or when, according to the other analysis, there has been a relation of perceiving to a physical object such that we have the sense-data *abcd*—whenever *abcd* recurs, the process of perceiving is facilitated. Such facilitation is, there is good evidence for saying, accompanied by a specific feeling, and neither the facilitation nor the feeling is dependent on any *particular* group of sense-data. Here, then, we have actual factors of experience which are independent of the context in which they occur. And these constant factors of experience come just where constant relations do: the feeling accompanying facilitation where there is sameness, the feeling accompanying block or hindrance where there is difference. There is also fairly definite experimental evidence to suggest that it is just where the feelings accompanying facilitation and block are prominent that the tendency to analyse what is presented into parts, and to assert relation between the parts, is most strong. I am not prepared to follow out in detail the development of the process, but I believe that, starting from the basis that I have indicated, we shall be able to get a history of the way in which eventually we reach judging proper, where we assert relations, not, commonly, apart entirely from terms related, but in full awareness of the fact that the relations hold whatever the nature of the terms may be.

It may seem as if all this admits that in some way the universal relation is "imported from the unknown as 'given.'" And so it does. A universal relation is not reducible to particulars or constructed from particulars. Once it is known it may be known to be elementary, though an elementary process of apprehension never would know it.

But as a process judging certainly possesses a history.

Perceiving, remembering, imaging, recognising, all play their parts in preparing us for judging. In actual life these processes are not clear-cut and distinct, and it so happens that we often use the term "perceiving" of some process which contains elements of them all. Throughout repetition and past experience doubtless play a great part, but the sort of analysis which, realising this, thinks that it necessitates, or is explained by, reference to a "modification of sense experience" is incomplete and inaccurate.

III. *By G. E. MOORE.*

Miss Edgell gives us two different statements of her thesis: one at the beginning of her paper, and the other at the end. And that it is of the following general nature there can, I think, be no doubt. She is certainly trying to prove, with regard to one or more of Mr. Russell's views, that, if the view or views in question were true, then it would be impossible that our past experience should modify our subsequent mental history in certain ways in which, according to her, it certainly does modify that history. In other words, she is trying to prove, with regard to some view or views of Mr. Russell's, that the view (or views) in question is (or are) inconsistent with certain real or supposed facts about the way in which our mental history is influenced by our past experience.

But when we come to ask (1) *which*, precisely, among Mr. Russell's views she is maintaining to be inconsistent with facts of this nature, and (2) *which*, precisely, among facts of this nature she is maintaining it or them to be inconsistent with, there is, I think, room for doubt on both points.

As regards (1), it seems to me that she specifies, in her opening statement, as if it were *the* one she is attacking, a view of Mr. Russell's which is quite a different one from that which she specifies in her supposed "restatement" at the end. And

as regards (2) it seems to me that in her opening statement she specifies three different real or supposed facts, about the influence of past experience, as if each of them were *the* one she is maintaining to be inconsistent with Mr. Russell's views, and that in her supposed "restatement" she specifies yet a fourth, as if it again were *the* fact in question, although it is not identical with any of the three specified before.

It seems to me important that we should get as clear an idea as possible of what, precisely, her thesis is, before considering whether she has proved it, and whether it is true. And so I propose, first of all, to state as clearly as I can both (1) *which*, exactly, of Mr. Russell's views I take her to assert she is attacking, and (2) *which* among the real or supposed facts, about the influence of past experience, I take her to assert these views to be inconsistent with.

1. In her opening statement, she first tells us that it is Mr. Russell's *theory of knowledge* she is going to attack; and then in her final sentence mentions one particular view of Mr. Russell's, as if it were *the* item in his theory of knowledge against which her attack was directed. The particular view in question is his view that knowledge by acquaintance and knowledge by description must be "kept apart," in *the* particular sense (whatever it may be, and Miss Edgell does not tell us what it is) in which he holds that we should keep them apart.

Now Mr. Russell does undoubtedly hold that knowledge by acquaintance and knowledge by description should be "kept apart" in the following sense. He holds that the two conceptions, to which he himself has (quite arbitrarily) chosen to give these names, are distinct conceptions, which ought not, therefore, to be treated as if they were identical. In other words, he holds that, if you say of a certain individual A and of a certain object B, that A is knowing B by description, then (*provided* you are using this phrase in the precise sense which he has given to it) the relation which you are asserting to hold

between A and B is quite a different one from that which you would be asserting to hold between A and B, if you were to say that A is acquainted with B (*provided*, again, that you were using this phrase, also, in the precise sense which Mr. Russell has arbitrarily chosen to give to it). But *this* view of Mr. Russell's is one which, I take it, Miss Edgell can hardly wish to dispute. So soon as you understand precisely what the conceptions are, to which Mr. Russell has arbitrarily chosen to give these names, you can, I think, have no doubt that *those* conceptions, at all events, *are* distinct. Mr. Russell's definitions of them leave no room for doubt about the matter.

It must, therefore, I take it, be some *other* view of Mr. Russell's about these two conceptions, which Miss Edgell wishes to attack, if what she wishes to attack is a view of Mr. Russell's at all. And the only other views about them, actually held by him, which could possibly be described as assertions that they must be "kept apart," are, I think, the following, viz.: (*a*) that we often are, at a given time, acquainted with a thing, which we are *not* at that time knowing by description; and (*b*) that we often are, at a given time, knowing a thing by description, which we are *not*, at that time, acquainted with. Mr. Russell certainly does hold that knowledge by acquaintance and knowledge by description are separable in both these senses. And I take it that the view to which Miss Edgell here alludes (if it is a view of his at all) must be one or both of these two views. These two views of his are views which I, for my part, firmly believe to be true; the second of them, (*b*), seems to me to be among the most important of his contributions to the theory of knowledge; and hence if Miss Edgell could really show that either or both of them were false, I should agree with her that she had made a fatal attack on Mr. Russell's theory of knowledge.

I take it, then, that *one* view of Mr. Russell's which Miss Edgell wishes to attack is the view which we get by combining (*a*) and (*b*); though *which* of the two factors of this view,

whether (*a*) or (*b*), is the object of her attack, or whether *both* are, I do not know. I will call this view, View (1).

But in the supposed "restatement" at the end of her paper, the view which she specifies as if it were *the* one she has been attacking is a very different view. She here says her thesis has been that the failure of Mr. Russell's theory of knowledge "arises from the attempt to analyse the simplest cognitive experience into a two-term relation, viz., mental act and physical reality."

Now here it looks, at first sight, as if the view in question were not a view of Mr. Russell's at all, but only one which she falsely supposes to be his. For Mr. Russell certainly never has attempted to analyse any cognitive experience whatever into "mental act and physical reality"; nor has he ever thought of identifying (as Miss Edgell seems to do) a couple of terms with a two-term *relation*. When Mr. Russell speaks of a two-term relation, he generally *means* a relation, and he certainly never means, as Miss Edgell seems to suppose, a couple of terms. But I think we can distinguish, among the views which Mr. Russell really has held, the particular view to which Miss Edgell must be here alluding, if she is alluding to any view of his at all. He has held with regard to *some* of our simplest cognitive experiences, namely our "sensings" of sense-data, that they do consist in the holding of a dual relation between two terms, *one* of which is, in a certain sense, a physical reality. *Neither* of the two terms, is, according to him, a "mental act." The only item involved in the whole business which he might possibly call a "mental act" would be the *whole* cognitive experience, which consists in the holding of the dual relation between the two terms. And in order to give a complete analysis of such an experience, he would, of course, hold that you had to mention *three* items, and not two only, viz., each of the two terms *and* the dual relation which unites them.

This, I take it, must be the view of Mr. Russell's to which

Miss Edgell is here alluding, if she is alluding to any view of his at all. And with regard to this view I want to insist on two points; namely, first, how completely different it is from the view as to the separability of knowledge by acquaintance and by description, which I have called View (1); and, secondly, that it is not, properly speaking, an item in Mr. Russell's *theory of knowledge* at all.

The view in question, like View (1), obviously combines two distinct assertions; namely (*c*) that our "sensings" of sense-data do consist in the holding of a dual relation between the sense-datum and some other term, and (*d*) that the sense-datum is always, in a certain sense, "physical." And each of these assertions is of such a nature that it might quite well be false, even if View (1) were true. For my part, while I am firmly convinced, as I have said, that View (1) is true, I hold, with regard to (*c*), that it *is* false, and with regard to (*d*) that it is very doubtful. So much for the difference of this view from View (1).

And as for its connection with Mr. Russell's theory of knowledge, what I want to point out is that, while (*c*), like View (1), is, quite strictly, an item in Mr. Russell's general theory of knowledge, (*d*) is not, but should more properly be called an item in his *theory of the physical world*. You may, I suppose, call it, if you like, an item in his theory of *our knowledge of the physical world*, since it has, of course, an intimate connection with that theory. But what I want to insist on is that Mr. Russell's general theory of knowledge, including View (1) and (*c*), is something quite independent of his theory of the physical world, to which (*d*) belongs. The general theory of knowledge may quite well be true, even if the theory of the physical world is false. I think Miss Edgell has clearly not realised how independent these two theories are; and that one of her principal objections to Mr. Russell's views is simply and solely an objection to (*d*)—not at all an objection either to View (1) or to (*c*).

Let us call the view which combines (c) and (d), View (2). I think we may take it that Miss Edgell certainly means to attack View (2) as well as View (1). These, then, are the views of Mr. Russell's which I understand her to assert she is attacking.

2. But what are the real or supposed facts about the influence of past experience, which she maintains to be inconsistent with these views?

In her opening statement she tells us (1) that Mr. Russell "has no place in his theory of knowledge for past experience, save as the source of a specific group of data. He allows acquaintance with past objects and acquaintance with facts of past experience, but that is all." She tells us next (2) that "learning by experience is a meaningless phrase with reference to the cognition which Mr. Russell portrays." And she tells us thirdly (3) that "to keep apart, as Mr. Russell would have us keep apart, knowledge by acquaintance and knowledge by description, we must regard what is known by the former as 'given,' in the sense that the past experience of the subject can contribute in no way whatever to this known, save in the case where this past experience is itself what is known." While in the supposed "restatement" at the end of her paper, she tells us (4) that "Mr. Russell's theory of knowledge fails in that it allows no place for retentiveness as distinguished from definite memories."

Each of these four assertions seems to me to assert, with regard to a *different* real or supposed fact, that Mr. Russell's views are inconsistent with that fact. And I will first of all try to state, as clearly as I can, what, in each case, I take to be the real or supposed fact with which Miss Edgell is asserting them to be inconsistent.

(1) What I take her to be here asserting is that, if Mr. Russell's views were true, then the *only* way in which our subsequent mental history could ever be modified by our past experience, would be that it might contain, owing to that

experience, events of two classes, which it would not have contained but for that experience; the two classes of events in question being (a) acquaintances with past objects, with which we have previously been acquainted, and (b) acquaintances with our past experiences themselves.

Here, therefore, the fact with which Miss Edgell is asserting Mr. Russell's views to be inconsistent is (α) *That events of classes (a) and (b) are not the only events in our mental history which are due to the influence of our past experiences.*

(2) What I take her to be here asserting is that, if Mr. Russell's views were true, we could never truly say that we had "learnt by experience."

Here, therefore, the fact with which she is asserting his views to be inconsistent is simply (β) *That we do learn by experience.*

(3) What I take her to be here asserting is something which I think it is much more difficult to express clearly; but I think it is very important to try to get it clear. It is plain, to begin with, that what she is asserting is that, if Mr. Russell's views were true, then it would be impossible that our past experience should "contribute" in any way whatever to the *objects* of a certain class of mental events. And the class of mental events in question is clearly the class embracing all mental events of the kind that Mr. Russell would call "acquaintances," *except* those belonging to the classes (a) and (b) distinguished under (1). So much is plain. The difficulty is to get clear as to what she means by saying that past experience may "contribute" to *what is known* in such an acquaintance.

I take it that what she means is the same as what later on, with reference to the particular case in which what is known in an acquaintance is a sense-datum, she expresses by saying that our sense-data may be "modified in virtue of past experience"; and also by saying that past experience has influence, "not merely on the act of cognition, but on the sensum." That is to say, she would say that past experience

had "contributed" to *what is known* in an acquaintance, in the case where *what is known* is a sense-datum, if and only if the sense-datum in question had been "modified" or "influenced" by past experience. This conception of the "modification" of sense-data by past experience is, I think, quite fundamental in her paper. Clearly one of her chief objections to Mr. Russell is that she thinks he is bound to deny that they ever are so "modified." It is, therefore, I think, important to ask: What precisely *is* this conception? What is meant by saying that a sense-datum has been "modified" by past experience?

There are, it seems to me, two different things that may be meant which it is important to distinguish.

(i) It may be meant simply that the sensation produced in my mind by a given stimulus is different, owing to my past experience, from the one that would have been produced by a precisely similar stimulus, but for that past experience, in respect of the fact that it is a sensing of a *qualitatively different sense-datum*. Such a case would be realised if, as Professor Ward seems to imply, it is owing to his past experience that "the steel-worker sees half-a-dozen different tints where others see only a uniform glow," and if also it is the actual sensations of the steel-worker, and not merely his discrimination of them, which are different from what they would have been but for his past experience. That our actual sensations are often "modified" by our past experience in this sense there seems to me to be very little doubt, though I believe it has been disputed. And this seems to be all that is necessarily implied by Miss Edgell when she says: "It is the *a* itself which is different from the sensum it might have been had there been no experience of *b*."

But (ii) it may be meant not merely that my "sensing" of that particular sense-datum at that time, instead of a qualitatively different one, is due to the influence of my past experience, but that the very existence, at the time in question, of that particular sense-datum is also so due: that, but for my

past experience, just that sense-datum would not have existed at all at the time in question, but only a qualitatively different one. I am inclined to think that Miss Edgell means to assert this also, when she says that our sense-data are "modified" by our past experience; it is the most natural interpretation to give to her assertions that past experience "contributes" to "what is known," and that past experience has influence "not merely on the act of cognition but on the sensum." But that our sense-data ever are "modified" by past experience in *this* second sense seems to be much more disputable than that they are so in sense(i); though here again I am inclined to agree with her that they are.

I think, then, that the supposed fact with which she is here asserting Mr. Russell's views to be inconsistent is: (γ) *That the very existence of objects of acquaintances, not belonging to either of the two excepted classes (a) and (b), is often due to the influence of our past experiences.*

(4) What I take her here to mean is that, if Mr. Russell's views were true, then of no events in our mental history except "definite memories" could we truly say that they were due to the influence of our past experience. That is to say, I suppose her to use "retentiveness" in such a sense, that to say that an individual's mind is "retentive" is identical with saying that his mental history is modified by his past experiences.

Here, therefore, the fact with which she is asserting Mr. Russell's views to be inconsistent is: (δ) *That definite memories are not the only events in our mental history which are due to the influence of our past experiences.*

Now, as I have said, I think that each of these four real or supposed facts (α), (β), (γ), and (δ), is different from each of the others, although Miss Edgell seems to identify them. But I think that the differences between (α), (β), and (δ), though very important in some connections, are quite insignificant in comparison with the enormous difference there is between (γ)

and any of the others. With regard to (α), (β), and (δ); it seems to me quite plain that they are indubitable facts, of each of which there are simply enormous numbers of instances; so that, if Miss Edgell could show any views of Mr. Russell's to be inconsistent with any one of them, no matter which, I should agree that she had shown these views to be guilty of a simply enormous error. But (γ) seems to me to be on an entirely different footing. It may, I think, be denied without absurdity: so that, even if she could show any view of Mr. Russell's to be inconsistent with (γ), I should not take that to be a fatal objection to the view in question.

The best guess I can make then, as to the nature of Miss Edgell's thesis, is that part, at least, of her object is to show that each of the Views (1) and (2) is inconsistent both with each of the three indubitable facts (α), (β), and (δ), *and* with the real or supposed fact (γ).

3. Let us now ask: *If* this is her thesis, has she proved any part of it?

It seems to me extraordinarily difficult to discover from her paper exactly what are the steps of any argument whatever on which she may be relying to prove any part of it. All I can do is to guess at some arguments, which I think must be in her mind, and to try to show that *those* arguments (with one single exception) have not the smallest tendency to prove any one of the propositions of which her thesis seems to consist.

A. As regards the general outline of her argument, I understand her to rely solely on proving successively, (*a*) with regard to a certain class of "recognitions," and (*b*) with regard to a certain class of "awarenesses," that Views (1) and (2) preclude Mr. Russell from giving any tenable "interpretation" of events of these two kinds. The two kinds of events in question are presumably chosen by her, as instances of events which *are* due to the influence of past experience and are *not* definite memories, and with regard to the second class (*b*) it

seems to me highly disputable whether they *are* all due to the influence of past experience. But what I want first of all to point out is this. Even if these two classes of events *are* due to past experience and are *not* definite memories, they are quite certainly by no means the only kinds of events which are instances of facts (α), (β), and (δ): there are enormous numbers of others. Even, therefore, if Miss Edgell could show that, supposing Views (1) and (2) were true, it would be impossible that events of these two kinds should happen, her proof of that would by no means suffice to show that, supposing these Views were true, it would be impossible that *any* events which were instances of (α), (β), and (δ) should happen. For this reason her proof with regard to these two kinds of events, even if successful, must fall enormously far short of proving that either View (1) or View (2) is inconsistent either with (α) or with (β) or with (δ). I suppose she must be assuming that, if Mr. Russell's views preclude him from interpreting correctly two such elementary cases as these, they must, *a fortiori*, preclude him from interpreting correctly other (for the most part more complicated) cases that fall under (α), (β), and (δ). And possibly there *may* be some ground for such an assumption: if Views (1) and (2) really did involve the consequence that we could not have recognitions of class (*a*) nor awarenesses of class (*b*), there is no saying what other absurd consequences they might involve as well. But Miss Edgell has made no attempt to *prove* that her assumption is correct—that what holds for (*a*) and (*b*) must hold for all other cases.

It only remains, therefore, to ask whether she has succeeded in proving even that events of these two chosen classes would be impossible, if Views (1) and (2) were true. And it is clear that, if she could show even as much as this, she would have convicted those Views of a simply enormous error, though not of nearly *such* an enormous one as that with which she charges them, when she says they are inconsistent both with (α) and with (β) and with (δ).

Has she convicted either View (1) or View (2) of *this* error?

B. Let us consider first her arguments in Section (a): arguments which are, I take it, intended to show that, if either View (1) or View (2) were true, it would be impossible that we should have "recognitions" of the class she is there dealing with.

The class of "recognitions" in question are, I take it, the sort of event which happens when, with regard to some sense-datum, which we are at the moment "sensing," we are aware that we have had one like it before. That is to say, they are events which consist in our recognising some present sense-datum, *not* in the sense that we know we have had *it* before, but simply and solely in the sense that we know we have had *one like it* before. Miss Edgell is, I think, perfectly right in assuming both (1) that events of this sort do constantly happen; (2) that they are *not* definite memories; and (3) that they are due to the influence of past experience; it is quite clear, I think, that whenever we do *know* this with regard to a present sense-datum, our knowledge is at least partially due to the fact that we really *have* "sensed" in the past a sense-datum more or less like the one in question.

Why does Miss Edgell think that Views (1) and (2) preclude Mr. Russell from giving a correct interpretation of this kind of event, or, in other words, from giving a correct answer to the question: *What* kind of event are we asserting to be happening when we say, with regard to a present sense-datum, "I know that I have sensed something like this before"?

(1) The most prominent feature in her argument seems to be that she gives us two different answers to this question, both of which she asserts to be consistent "with the standpoint of the New Realism," and urges that both of these answers are untenable. And both of them are, I think, quite obviously untenable. The kind of event which they declare to be what we are asserting to be happening when we say "I know I have sensed something like this before" is, quite obviously, *not* the

kind of event we are asserting to be happening, when we say this. With this part of the argument, therefore, I cordially agree.

But obviously, in order to prove that Mr. Russell's views preclude him from giving a correct answer to our question, she must show, not merely that these two incorrect answers *are* consistent with his views, but *also* that no correct one is so. And this is what I cannot see that she has made any *attempt* to prove.

Why on earth does she think that Mr. Russell's views *limit* him to one or other of these two incorrect alternatives?

The *correct* answer to our question I take to be this. This kind of recognition consists in our knowing, with regard to the present sense-datum, and with regard to the *relation* "likeness," just this: That there was a sense-datum, of which it is true, both that it was sensed by me before, and that it had the relation of likeness to *this* sense-datum. Whether this act of knowing is a judgment or belief, I do not know; I think very likely it is, and I think Mr. Russell would say that it is. But I think the most important point to insist on with regard to it, is that it does *not* involve that, at the moment when it occurs, we should be *acquainted* with any past sense-datum whatever, which was, in fact, like our present sense-datum. We must have been *formerly* acquainted with at least one sense-datum which was like our present sense-datum; we *may* have been acquainted with several which were so. But, at the moment when our act of knowledge occurs, we need not be acquainted with any such sense-datum; and (*I* should say) *never* are so. And not only so. We need not even know any such sense-datum *by description*, in Mr. Russell's sense. All that is involved is that we *are* knowing with regard to the property "sensed by me before *and* like *this* sense-datum" that there was at least one sense-datum which possessed it. We *need* not be knowing that there was *only* one which possessed it, which is what would be necessary in order that we should be said to be knowing such a sense-datum by description.

Why does Miss Edgell suppose that Views (1) and (2) preclude Mr. Russell from giving *this* answer to our question?

She seems never even to have conceived the possibility that he could give it; she certainly has not even attempted to show that he could not. She seems simply to have assumed that the only alternative left open to him, if he does not adopt her first alternative, is one in which the recognition *must* be an acquaintance and *not* a judgment; and one also in which an acquaintance with some past sense-datum, which was in fact like the present one, is involved. The further argument, by which she then tries to show that, *on* these assumptions, his views forbid him from giving a tenable account of such a recognition, is full of sheer mistakes. But for my purpose it is obviously unnecessary to go into these. It is sufficient to point out that she has not even attempted to show *either* that *any* views of Mr. Russell's, far less Views (1) and (2), preclude him from giving the "interpretation" I have given, *or* that *this* interpretation is untenable.

* (2) But it seems to me that some other argument, beside this obviously inadequate one, must have been in Miss Edgell's head. It will be noticed that she insists very strongly on the supposed fact that Mr. Russell would admit that sense-data may "recur," in the sense that, on two successive occasions, we may "sense" sense-data which, though *numerically* diverse, are *qualitatively* the same. This admission (supposing Mr. Russell to make it) would obviously be quite irrelevant to the argument we have just been considering. But she must, I think, suppose it to be relevant to *some* argument against him. What can the argument be?

The best guess I can make is this. She assumes, I think, that, in order that we may know with regard to a present sense-datum "I have had one like this before," the present sense-datum *itself* must have some peculiar *modification*, our perception of which is what enables us to know this with regard to it. That is to say, she assumes that there is some peculiar

quality, belonging to those sense-data and those only, which we do "recognise" in her sense, and which is what enables us to recognise them. If this assumption were true, it would, of course, follow that no sense-datum, which *was* recognised, could ever be exactly similar in quality to a previous one which had *not* been recognised. And I imagine her argument against Mr. Russell to be something of the following form. In the case of any sense-datum whatever, of which it is true that we have had one like it before, it must be *possible* that we should "recognise" it, in the sense of knowing with regard to it that we have had one like it before. If, therefore, you admit that *any* sense-datum is ever exactly like one which you have had before, you must admit that you *may* recognise *it*, though you did *not* recognise the previous one, when *it* occurred. But since, in order that a sense-datum may be recognised, it must be qualitatively different from any which was not recognised, it follows that, in the case supposed, you could *not* recognise the second sense-datum, since, *ex hypothesi*, it is *not* qualitatively different from the first. Hence it follows that your admission that any sense-datum *can* be exactly like a previous sense-datum must be false.

Now with regard to this argument I want to point out two things.

(a) Even if it were valid, the *only* view of Mr. Russell's which it would disprove is his admission (supposing he makes it) that you *may* on two successive occasions "sense" sense-data exactly similar in quality. It would not have the very slightest tendency to show that View (1) or View (2) was false; still less that either of them precluded Mr. Russell from giving a correct interpretation of recognitions of the class we are considering. It would only show that in no case could a sense-datum, thus recognised, be exactly like one we have had before.

But (b) the more important point is, I think, to dispute its validity. I can see no reason whatever for Miss Edgell's

assumption that, in order that we may know of a sense-datum, "I have had one like this before," the sense-datum itself must have some peculiar quality which enables us to know this about it. I do not admit that, in order that we may know this about it, the sense-datum itself must have been "modified" by past experience in *either* of the two senses I distinguished under 2 (3), although I do admit that often our sense-data *are* modified by past experience in both senses. And I can find no argument whatever in Miss Edgell's paper even tending to show that for recognition such modification is necessary. But as to *why* she thinks it is, I have a suggestion to make. Towards the end of her paper she makes the astonishing assertion, "It is my previous acquaintance with *b* which changes a hypothetical simple *a* into '*a* like *b*'"; and she follows this up with the assertion, "It is the *a* itself which is different from the sensum it might have been had there been no experience of *b*." These two sentences, taken in connection, look as if Miss Edgell thought that the *property* which we assert to belong to *a*, owing to the influence of past experience, when we say "Owing to past experience, *a* is perceived to be like *b*," were a *quality* of *a*'s; that is to say, they look as if she supposed that, to assert of *a* that it has, owing to past experience, a *property* which it would not otherwise have had, is *identical* with asserting that *a* is *changed or modified* by past experience. And, of course, if to say of *x* that something is true of it, which is not true of *y*, is *identical* with saying that *x* is different in quality from *y*, we can arrive by a very simple deduction at the proposition that all sense-data which *are* recognised must be qualitatively different from any which are not. *Ex hypothesi*, those which *are* recognised have a property, namely, that of being recognised, which the others have *not* got; and if every property is a quality, it will follow that they have a quality which the others have *not* got. Unfortunately, if we deduce our proposition in this way, it is something hardly distinguishable from a tautology. But it seems to me possible that why

Miss Edgell believes in the non-tautologous (and, according to me, false) proposition that every sense-datum which is recognised must be qualitatively different from any which is not, is because she has confused this proposition with the tautologous one that every sense-datum which is recognised has some *property* which does not belong to any that is not.

I can, therefore, find in Section (*a*) no argument whatever which has the smallest tendency to show that Views (1) and (2) preclude Mr. Russell from giving a tenable analysis of this kind of recognition.

C. Let us now turn to Section (*b*).

The class of events which I take Miss Edgell to be here considering are those which consist in our knowing with regard to two sense-data, *a* and *b*, both of which we are at the moment "sensing," either that *a* is like *b* or that *a* is different from *b*. And, as I explained under A, I think her intention must be to show that in this case, as in that of the "recognitions" dealt with in (*a*), Views (1) and (2) preclude Mr. Russell from giving a satisfactory "interpretation" of the class of events in question, and I think she must suppose that in doing this she will have done something to substantiate her original charge that Views (1) and (2) preclude him from allowing facts (α), (β), and (δ) to be facts.

But, of course, she will have done nothing of the sort, unless events of this class *are* due to the influence of past experience; and, whereas "recognitions" of class (*a*) undoubtedly are so, it seems to me, as I said, exceedingly doubtful whether all cases of knowing that *this* is like or different from *that* are in any way due to that influence; *some*, no doubt, are, but many, I should have said, are not. I cannot find any argument of Miss Edgell's which seems to me to have any tendency to show that all events of this class *are* due to the influence of past experience. And hence, even if she could show that Views (1) and (2) are inconsistent with any satisfactory account of them, this proof would, I think, be almost wholly irrelevant

to her original contention that these Views are inconsistent with (α), (β), and (δ).

If, however, she could show that Views (1) and (2) did preclude Mr. Russell from giving any tenable account of these events, she would at least have shown that these Views were guilty of an enormous error. But I cannot find that she makes any attempt to show even this. Her argument seems to be almost exclusively confined to trying to show that the particular view of Mr. Russell's which she begins this section by quoting is false: namely, the view that the two alternative accounts of this kind of event, which Mr. Russell specifies in the quotation, are the only theoretically possible ones. She does seem to me to be trying to show that neither of these alternative accounts can be a correct one, and that therefore *this* view is false. But *this* view is something quite distinct from, and independent of, Views (1) and (2): even if it were false, they might be true, and Miss Edgell seems to make no attempt to establish a connection between the two.

As for her arguments to show that neither of the alternative accounts which Mr. Russell offers is correct, they seem to me scarcely to deserve to be called arguments: they are bare assertions, and I only propose to call attention to one or two, which seem to me to be among the most mistaken of these assertions.

(1) She asserts that, if we take our knowing that a is like (or different from) b , to consist in an acquaintance with the complex fact that a is like (or different from) b , then "the acquaintance will lead to nothing beyond itself"—by which she apparently means that it will not enable us to form the abstract conceptions of "likeness" and "diversity." And if she means merely that it will not *necessarily* lead us to do this, of course, this is true. All that it seems necessary to admit is that our knowing of such a fact may possibly *help* us to form the abstract conceptions; and that, hence, if the view that our knowing is

an acquaintance of the sort described precluded us from allowing that it might help us, that view must be false. And just this is what Miss Edgell seems to go on to assert when she says "The acquaintances in question being simple there will be nothing to abstract." In making this assertion she seems to me to be guilty of two sheer errors. In the first place, she apparently thinks that, on Mr. Russell's view, such an acquaintance would be *simple*; and this is a mere mistake. According to Mr. Russell, if there were an acquaintance with the fact "*a* is like *b*," such an acquaintance *must* be complex, containing as constituents, at least, *a*, *b*, and the relation "likeness" among others. And, in the second place, it seems to me a most important error to maintain that, if a thing is simple, "there can be nothing to abstract." When we say that a thing is simple we mean only that it has no *constituents*: we do *not* mean that it has no *properties*. A simple thing, for instance, may have several different *qualities*: *e.g.*, it might be *both* primrose-yellow *and* yellow. And whenever a thing has a quality, there *is* something to abstract. In fact, there seems no doubt that the seeing of a thing which *is* primrose-yellow does often *help* us to form *both* the abstract conception "primrose-yellow" *and* the more abstract one "yellow." And, even if the thing were simple, the same would remain possible; since these qualities are, in any case, not *constituents* of the thing which has them.

Since Miss Edgell's whole argument to show that Mr. Russell's second alternative account of knowings of the kind we are considering—namely, that they may be acquaintances with the complex fact itself—is untenable, seems to rest on these two mistaken premisses, I take it she has not proved *this* point.

(2) As for the other alternative account, namely, that knowings of this kind are *judgments*, and that judgments differ from perceptions in the way Mr. Russell specifies, one of her objections to this seems to be that, if we suppose one of the constituents of the judgment to be the abstract relation "likeness," this

relation "could not possibly relate the sense-data." This is a bare assertion; and I cannot imagine any reason for supposing it to be true. Of course, according to that theory of judgment of Mr. Russell's which she is here considering, the relation "likeness" does not, *in* the judgment, unite the sense-data. But Mr. Russell supposes that, *if* the judgment is true, there may be a fact which consists in *a*'s having to *b* that very same relation. And why on earth should there not be? If *a* has to *b* the abstract relation "likeness," as it seems it may have, then that relation *does* unite *a* and *b*.

D. I come now to the only argument which, though not stated in Miss Edgell's paper, *may*, I think, have been in her head, with regard to which it seems to me possible that it may be an argument of some weight against *one* of the two Views (1) and (2).

In the fifth paragraph from the end of Section (b) she asserts "As we have seen, there is for Mr. Russell no possibility for modification in the sense-data in virtue of past experience." And she would seem to be here referring to some previous passage, in which she has *proved* that for Mr. Russell there is no such possibility. But the only passage I can find, to which she can be referring, contains, so far as I can see, no *proof*, but only a very emphatic *assertion* of the same thing. This is where, in Section (a), she asserts "To modify it in any way, in virtue of the fact that it has been 'sensed' before, would be to surrender the whole position." I cannot, therefore, find that she has actually given any reasons whatever for this charge.

Obviously, however, she holds very strongly, for some reason or other, that Mr. Russell *is* bound to deny the possibility of such modification; and that this fact is somehow relevant to her argument. But *why* does she hold this?

I can only guess that she may have had in her head some such argument as this.

To recur to Professor Ward's example of the steel-worker.

(1) She assumes that the mass of molten metal, which, according to Professor Ward, does, conjointly with his past experience, cause the steel-worker, on a given occasion T^2 , to see half-a-dozen tints, might conceivably be exactly similar in its physical constitution to a mass of metal which he saw on an earlier occasion, T^1 , when he was a boy, and when, not having had the experience which causes him at T^2 to see half-a-dozen tints, he only saw a glowing mass. (2) She assumes next that, if the steel-worker's sense-data at T^2 have *not* been modified by his past experience, then none of our sense-data ever are so modified: if you deny all modification in such a case as this, you must deny it altogether. (3) She assumes next that the quotation from Mr. Russell which she gives at the beginning of Section (a), implies that the steel-worker's sense-data at T^1 were constituents of the mass of metal he saw then, and that his sense-data at T^2 are also constituents of the precisely similar mass he sees at T^2 . (4) She infers, from (3), that Mr. Russell must hold that the sense-data at T^2 are precisely similar to those at T^1 , since, otherwise, the masses of which they are constituents could not be precisely similar; she infers, that is, that he must hold that the sense-data at T^2 have *not* been modified by past experience. And then, finally, (5) from (2) and (4) jointly it really does follow that, according to him, in *no* case will our sense-data be modified by past experience.

Now of the assumptions on which this argument rests, it does seem to me that (1), (2) and (3) are very reasonable. Why the argument certainly fails to prove its point, as it stands, is because the inference in (4) is fallacious. From the fact that the earlier sense-data are constituents of the earlier mass, and the later sense-data of the later mass, and that the two masses are precisely similar, it obviously will not follow that the later sense-data must be precisely similar to the earlier; since Mr. Russell might conceivably hold that there did exist at T^1 sensibles precisely similar to those which the steel-worker sees at T^2 , though neither he nor any one else then saw them, and

similarly that there do exist at T^2 sensibles precisely similar to those he saw at T^1 , though neither he nor any one else now sees them. But, *unless* this is so, the reasonableness of assumptions (1), (2), (3) does seem to me to give strong ground for suspecting that what Mr. Russell asserts in the quotation at the beginning of Section (a) *is* inconsistent with the view that our sense-data ever are modified by past experience. And there do seem to me grounds for suspecting that it will not necessarily have been the case that at T^1 there *did* exist any sensibles exactly similar to those which the steel-worker sees at T^2 . So that there are, I think, some grounds for suspecting that what Mr. Russell asserts in this quotation really *is* inconsistent with the view that our sense-data *are* modified by past experience, and is, therefore, false.

I may add another argument, which also, it seems to me, may have been in Miss Edgell's head, and which also seems to me to have some weight and to yield the same conclusion. She might say: The existence of the mass of metal which the steel-worker sees at T^2 need *not*, even partially, depend on his past experience in the sense in which (according to (γ)) his sense-data do. Hence, his sense-data *cannot* be constituents of the mass in question, since, if they were, the very existence of the mass of metal would necessarily depend on his past experience in the sense in which theirs does.

Finally, another instance of the principle of both these arguments is, I think, afforded by the cases of which Miss Edgell speaks as cases of "more accurate perception" due to attention. Here it seems to me clear that, owing to attention, we may get actually different sense-data, from those we should have had without it, and sense-data which more accurately represent the physical object to which we should be said to be attending. And here again it seems to me certain that our seeing of those sense-data is due to our attention, and that hence, if they are constituents of the physical object, our attention must have *changed* the physical

object, unless we assume them to have existed, unseen, before we saw them. That in all cases they do so exist, I think there are grounds for denying. And also, it seems to me, there must be something to be said for the common view that, though our attention has changed our sense-data, it has *not* changed the physical object. There seem to me, therefore, to be some grounds for suspecting here, too, that the sense-data are *not* constituents of the physical object in the sense in which I understand Mr. Russell to assert that they are.

I think, then, that Miss Edgell may possibly have had some such arguments as those in her mind, and that, if she had, there may be something in them.

But what I want finally to insist on is the precise bearing of these arguments upon her thesis. Absolutely the *only* part of her thesis which they can have any tendency to prove is simply and solely this: That there is an inconsistency between View (*d*) and Supposed Fact (γ). They have no tendency whatever to show any inconsistency between View (1) and *any* of the four facts (α), (β), (γ), (δ), nor between that part of View (2) which consists in asserting (*c*) and *any* of the four. They are, in short, an attack, *not* upon Mr. Russell's theory of knowledge at all, but *only* upon his theory of the physical world; they show, if they show anything, *solely* that there are grounds for suspecting of falsehood his theory that our sense-data are "physical" in a certain sense, and, even then, only for suspecting the theory that they are "physical" in that particular sense in which he seems to assert they are so in the passage quoted; that they may not be "physical" in some other sense, they give no ground for believing. And, finally, even of this physical view of Mr. Russell's, they give no ground for asserting that it is inconsistent with (α) or (β) or (δ). This extremely modest proposition, that (*d*) is inconsistent with (γ), seems to me to be the *only* part of her perfectly enormous thesis which Miss Edgell has even hinted at a valid reason for believing.

IV. *By* H. WILDON CARR.

Miss Edgell has stated her thesis very clearly. It is a negative thesis; it declares that a certain theory of knowledge is irreconcilable with the familiar experience we term recognition. She does not tell us what the implications of recognition are, but leaves us to imply them by showing what they are not. She invites us to consider the implications of recognition in regard to a realist theory, the essence of which is that there is no work of the mind in knowledge, forming or transforming the object, this object being a non-mental datum revealed to the mind in knowing. She refers us to a previous paper, in which she challenged the theory of Mr. Alexander that mental states can be enjoyed but never contemplated, and she now challenges the theory of Mr. Russell that the simplest cognitive experience is a two-term relation, viz., mental act and physical reality. In each case she discovers the same psychological error, or, rather, the same psychological defect, making each doctrine as a theory of knowledge impossible. The error or defect is that recognition has no place in these theories, and is inexplicable by them without doing violence to its nature. In other words, for the new realism recognition is a mystery.

Mr. Bartlett seems to me to misconceive Miss Edgell's problem when he charges her with a confusion between history and analysis. I can only suppose that he thinks because "learning by experience" is a process it must be presented as a genetic problem. At any rate, in the constructive part of his paper he so treats it; that is to say, he accepts recognition as a fact, assumes its reality, unanalysed, and seeks to enumerate the conditions, also unanalysed, which accompany it. Miss Edgell's problem is a quite different one; it is to show that a certain fact, to wit, recognition, is inconsistent with a certain theory of knowledge; if the theory of knowledge be accepted, the experience of recognition must be interpreted as some kind of illusion, that is to say, recognition cannot be fact in the

ordinary intension of the term, or, alternatively, the theory of knowledge must be rejected.

Mr. Moore has given what seems to me quite unnecessary emphasis to the question as to whether the views ascribed to Mr. Russell are Mr. Russell's views. He also complains that no attempt is made to distinguish and keep apart views held by Mr. Russell, one of which may very well be false without involving the falsity of another. And, in particular, he charges Miss Edgell with confusing Mr. Russell's theory of knowledge and his theory of the physical world. I cannot help thinking that for our present purpose all this is very unimportant. Miss Edgell, in quoting Mr. Russell, is in no way concerned with the consistency of his various doctrines, but only with a general theory of knowledge which many people hold who look on Mr. Russell as its leading exponent.

I hold that knowing is dependent on the faculty or power of doing, and is thus essentially bound up with the principle of life. Theory of life is therefore for me inseparable from theory of knowledge. Life is an activity and a duration, and these two characters are the conditions of knowing, and upon them depend the two forms of knowledge—perception and memory. Recognition does not, therefore, present itself to me as a difficulty to be reconciled; it is rather the fundamental basis of a theory of knowledge, its pivotal fact.

What is recognition? It is the consciousness that some 'this' in present experience has been experienced before. It is the "already seen," "already known," "had before," attached to the "this"; a mark of the past apprehended immediately and without reflection as belonging to the present. It is not memory, that is to say, it is not the evoking of a memory-image of a past experience, though this may be an effect of it, or an accompaniment of it, or possibly even a condition of it. I think it must be clear to anyone who introspects his mental processes that when he recognises an object or person he does so normally without conscious mental effort and also without the conscious

mediation of any imagery. So certain is this that I doubt if it would ever be called in question but for logical difficulties. The nature of this fact of recognition is of enormous importance psychologically, for the whole meaning of the process of learning by experience is involved in it.

I have said "but for logical difficulties": what is the logical difficulty such an experience presents to the realist? It is this. If the object of knowledge be a non-mental datum contemplated by the mind; and if the mind be the knowing act which itself cannot be a datum for contemplation, but can only be enjoyed as and in the act of contemplating; how can the datum bear upon it a mark of the past, not of its own past, for it has none, but of a past act of mind? It is impossible, and therefore to save the theory we must suppose that this mark is added to the datum by another and specific act which is not the act of perceiving (contemplating) the datum. Is such an act theoretically conceivable? If it be, must it not, so far as it has to be applied in explanation, belie the datum-character of the object, insistence on which is the ground of realist theory? In other words, if such an expedient may save realism logically is it not at the expense of damning it psychologically? This seems to me the problem of the implications of recognition so far as realism is concerned.

I now come to Miss Edgell's arguments. They are addressed to the realist and they are mainly two, or, rather, one and the same argument is modified to meet two forms of realist theory. She argues that on Mr. Alexander's thesis, recognition must refer to a fact which, if we assume it to exist, cannot be known; on Mr. Russell's thesis, it cannot exist.

The first of these contentions is not argued in the paper before us and therefore strictly does not come into our present symposium, but inasmuch as Mr. Russell has expressed, in one of the *Monist* articles referred to, his substantial agreement with Mr. Alexander, it is not only relevant but important to notice it. Miss Edgell's argument is quite direct. The mind

can contemplate an object compresent with it, such object may be a perceptible object or a memory-image, and in such contemplation it enjoys its act. But as recognition is no part of the object, whether that object is sensed or memorised, it is not contemplated. Does it then belong to the mental act? But the mental act can only be enjoyed. Recognition therefore cannot be present to the mind, that is, cannot be known. We have Mr. Alexander's reply in the *Proceedings* for 1911-12. The gist of it I take to be that the mind moves in different directions in enjoyment with the effect of placing the mark of a time order on the cognition. "Barring illusion, the object is really (*i.e.*, non-mentally) past or present, but you are aware of it as such by means of the conation into which your mind is thrown for one reason or another in respect of the object." Let us accept this. If it does not meet the difficulty it is at least an attempt to find a way round it. But this way of escape, if such it be, is not open to Mr. Russell, because of his uncompromising pluralism.

I know no clearer example of this pluralism than that afforded by the "cinematograph" illustration which Miss Edgell has quoted from Mr. Russell's article in the *Monist* of July, 1915. Mr. Moore, by the way, does not refer to this part of Miss Edgell's argument, yet to me it is the most important part of her paper, and one in which the possibility of her having mistaken the meaning of the author quoted is reduced to a minimum. According to this our sense-data are really as distinct and separate as the pictures which constitute the cinema film. Now no one of these pictures bears on it, or can bear on it, the mark of the past. Each is absolutely distinct. No one of the series comes to view with the mark of "seen before," "this again," "had already," upon it by which it is identified with the others in the series. If sense-data are of this nature, how can there be recognition? We can only answer that it is impossible. Psychologically we may describe our experience by that term, just as "the policeman may swear

to my identity," but it is a mere illusion, a take-in, it represents nothing real. Logically and ontologically recognition must be ruled out as a fact.

Nevertheless, recognition, even if it be illusion, is an experience and must be accounted for. Now there is an analogous experience in the case of the cinematograph, namely, animation. The cinematograph man moves and changes, although the pictures individually are not animated. Can this animation be accounted for on the theory? If it can it may offer us the key to the analogous case of recognition. Well, we are offered two principles, viz., continuity and intrinsic causal law. But there appears to be some mistake as to the first. Continuity may account for the animation of the real man (animation is my own term for the character of the series which makes it appear as one changing object) but it cannot account for the animation of the cinematograph man, because the cinematograph man is not continuous. A continuous cinema film would be one in which no picture was next another, one in which between any two pictures another could be found. No cinematograph of human construction is continuous in this sense, and continuity therefore differentiates the real man from the cinematograph man. Is it then "intrinsic causal law"? To me this is so unintelligible that I fear I must have failed to grasp the intension of the phrase. It would seem, however, that it must be meant either to indicate the fact that when two pictures are passed before me successively with a certain rapidity they give rise to a sensation of animation, a sensation I cannot obtain when I behold them simultaneously. In this case the term "intrinsic causal law" explains nothing and its utility as description is not obvious. Or it may mean cause in the older intension, that is, a potency or agency in the object, but this we must reject as plainly inconsistent with the thesis. The only other intension I can imagine for the phrase is "custom" in Hume's meaning when he said "all our reasonings concerning causes and

effects are derived from nothing but custom." If this be the meaning, the phrase "intrinsic causal law" to denote it seems to me peculiarly misleading. But this is a digression, it is only meant to show that if the cinematograph fails to account for its most striking feature, viz., the "animation" of the picture, it is not likely to help us to account for recognition.

I suggest that what is implied in the fact of recognition is not only what Miss Edgell has called retentiveness, a power in the mind of retaining the object of knowledge, *i.e.*, a power distinct from the power of being acquainted with it, but a retentiveness which is actively working in the perceptual process itself. Its activity is shown in direction, control, and selection of the object of knowledge in the very act itself of becoming acquainted with it. Recognition then will imply that memory is being formed at the very same moment as perception and by the very same process.

There is psychological evidence to support this view. There is an abnormal experience, which has been carefully observed, and of which many cases are on record. It is known as false recognition. The first notice of it in psychology is, I think, by William James, who thus describes it: "There is a curious experience which everyone seems to have had—the feeling that the present moment in its completeness has been experienced before—we were saying just this thing, in just this place, to just these people, etc." (*Principles of Psychology*, I, 675). The experience is not so common, I think, at least in a definite and pronounced form, as James represents it. I have never had the experience myself, but it has been described to me as a personal experience by a friend who has had it. Bergson has made an exhaustive study of it in an article in the *Revue Philosophique* of December, 1908. He has collected and compared all the recorded instances to that date. He terms it *Le souvenir du présent*. It appears to be memory of, or recollecting, what is actually present and

being perceived. The subject is perceiving, but feels he is recollecting. He is recollecting what he is perceiving. What he is actually doing seems to him, while he is doing it, to be what he has already done, what he is actually seeing seems, while he is seeing it, to be what he has already seen, and so throughout. If this occurs to a normal individual it is sudden and very fleeting, but in cases of mental disease it may endure for long periods.

A fact of this kind seems to throw light on what is one of the most obscure mental processes, viz., the process by which the experience of perceiving passes into the experience of remembering, the process by which what Hume called the impression becomes what he called the idea, or what we in this present discussion are calling the sense-datum becomes the memory-image, which we shall afterwards be able to recall. If the phenomenon of false recognition be a real case of recollecting, and yet a recollecting not of what is past, but of what is present, it implies that the process by which experience becomes marked with the past actually goes on concurrently with perception. Under normal conditions we are wholly unconscious of this process, but this may be because our activity requires that our attention should be concentrated on the forming action. Our whole interest in the present moment is in what it is bringing to pass, and therefore our consciousness is forward looking. This forward direction of attention may be blocking out the consciousness of the forming past, and we may only be able to become aware of it at rare moments or when from strain or breakdown the natural attitude is losing its equilibrium. However this may be, it is clear that recognition implies a work of the mind in the cognitive process itself. Were there no such activity and were the mental act only the contemplating of a succession, then even supposing the act of contemplating the succession to be single and not itself a succession of acts, we could never "learn by experience."

I agree then with the arguments advanced by Miss Edgell in support of her thesis.

I think Mr. Bartlett in treating the problem as one of descriptive psychology has failed to see its importance for philosophy. He tells us with evident sincerity that he cannot see why there should be any difficulty. His main argument, however, is vitiated in my view by an error. This is most conspicuous where he distinguishes an act of perceiving P sense-data $a b c d$ from a repetition in a second act and suggests that recognition is a "characteristic feeling accompanying 'facilitation'" acquired by the act of perceiving simply from the repetition. His mistake is that in the second act of perceiving the sense-data are not, as he says, $a b c d$ again (clearly impossible on any theory of sense-data) but $a' b' c' d'$. Make this correction and also the further one that the second act of perceiving is not P but P' and the argument is strengthless. Mr. Bartlett may of course be intending to present another theory, and his theory may be true, but his paper certainly leads us to suppose that he is defending the sense-data hypothesis.

Mr. Moore is largely in agreement with Miss Edgell on all the essential points. He is anxious to defend Mr. Russell against the main indictment and tells us he "certainly never has attempted to analyse any cognitive experience whatever into 'mental act and physical reality.'" I hope he is right, however rough it may be on Mr. Russell's followers. He thinks Mr. Russell does hold in regard to some of our simplest cognitive experiences, viz. our sensings of sense-data, that there is a dual relation between the sense-datum and some other term, but what this other term is, or what its nature is, Mr. Moore does not tell us. This, however, can hardly be important in view of the fact that Mr. Moore rejects it as false. Also Mr. Russell holds that the sense-datum is always, in a certain sense, "physical," and of this Mr. Moore is very doubtful. This certainly clears the ground.

Without attempting the obviously impossible task (in the

time limit) of following Mr. Moore's dialectic in its meticulous ramifications, we may I think try to appreciate its effect on the broad issue. That broad issue I take to be this—Can any theory which regards knowledge as a construction of elementary (*a*) sense-data, (*b*) other terms, and (*c*) relations, account for recognition? Mr. Moore without expressing any view as to the truth or falsity of any particular theory replies, Yes, and offers us a "correct" answer. This answer is that there is an act of knowing which may be a judgment or belief (but whether it is or not he cannot with certainty say), the important thing about which is that it does not involve at the moment it occurs acquaintance with any past sense-datum, or likeness of any past sense-datum to a present sense-datum, or knowledge by description of a past sense-datum, but only the knowledge that at least one sense-datum sensed before was like this sense-datum. What does this mean if not that there is no recognition of an experience at all? And Mr. Moore, evidently suspecting this, ventures to guess that Miss Edgell must mean by recognition that "the present sense-datum itself must have some modification," for him a quite unwarranted assumption, the validity of which he disputes. The issue I think could hardly be more clearly raised.

Finally, Mr. Moore's discussion of the problem in Section C of his paper reveals his own view as so diametrically opposed to the view Miss Edgell attributes to Mr. Russell, with fair show of reason as Mr. Moore acknowledges, that the argument simply becomes a warning, probably not unnecessary, that in interpreting Mr. Russell's words she has assumed his meaning, and the possibility is by no means excluded that Mr. Russell has an escape from the dilemma in which Miss Edgell seems, following his own exposition, to land him.

To sum up my own conclusion, I consider that recognition implies that knowing is not simply enjoying the contemplation of physical reality, whether this reality be only sense-data or

also something inferred as their cause or source. The analysis of knowledge into a two-term relation of mental act and physical reality ignores the essential factor in learning by experience. The mind can recognise not only because it retains its past experience in pure memory but also because it is impressing its mark on experience in present perception.

IX.—PARMENIDES, ZENO, AND SOCRATES.

By A. E. TAYLOR.

THERE is a laudable unwritten custom of well-bred society by which metaphysical discussions are carefully excluded from polite conversation. The reason of the rule is probably, as Mr. Jourdain has lately explained, that such discussions commonly involve the perception of jokes of the fourth order, and jokes of a higher degree than the second, or at best the third, are imperceptible by all but an insignificant minority of mankind. Hence the prohibition of their perpetration in general conversation is an easy and obvious deduction from the principle of the Categorical Imperative. History, however, presents us with two brilliant exceptions to the general rule: the conversation held at a memorable tea-party between Alice, the Mad Hatter and the March Hare, and that which, if we may believe Plato, took place at Athens at a certain celebration of the Panathenaic festival, some time about 451 or 450 B.C., in the house of the well known admiral and politician, Pythodorus, the son of Isolochus, between Parmenides, Zeno, and the youthful but already distinguished Socrates. Mr. Jourdain has already published an entertaining and illuminating commentary on one of these singular conversations: I propose on this occasion to invite attention to some points of interest connected with the other.

I cannot, of course, undertake to deal here with so wide

NOTE.—Allusions to Professor Burnet's views, unless otherwise stated, are to the analysis of the *Parmenides* in his recent volume, *Greek Philosophy: Thales to Plato*.

a subject as the purpose and argument of the *Parmenides* considered as a whole. All that I intend is to offer a slight contribution to the history of early Greek logical theory by attempting to throw some light on one or two lines of reasoning which are made prominent in the dialogue, and I shall select for special consideration two topics, the use made by Parmenides of the appeal to an infinite regress, and his attempted Refutation of Idealism. Before I can deal with either point in detail it will be necessary to say something in general about the dramatic setting which Plato has provided for the discussion, a subject on which the commentators, so far as I am acquainted with them, have been unduly silent.

If we examine the *Parmenides*, as we have the right to examine any dialogue of Plato, simply as a work of dramatic art, we shall see at once that it has certain peculiarities which give it a unique place among the Platonic "discourses of Socrates." Its form, to begin with, is unusually complicated; it is a narration by an unnamed speaker of a narration of a narration of a conversation. Hence its "formula," as Professor Burnet calls it, is "Antiphon said that Pythodorus said that Parmenides, Zeno or Socrates said such and such a thing." The scheme is, of course, far too cumbrous to be kept up at all rigidly, and Plato repeatedly allows himself to drop for convenience into direct reproduction of the conversation. So far as this scheme goes, however, the *Parmenides* does not stand alone; we have an almost exact counterpart in the *Symposium*, with the exception that there the speaker who relates what he had heard about the famous dinner in honour of Agathon's victory is himself a known and named person, and that his story has come to him at only one remove, so that the formula reduces to "Aristodemus told me that Socrates, or Aristophanes, spoke as follows." The full singularity of the scheme adopted for the *Parmenides* only becomes manifest from a rather fuller examination of the imaginary circumstances of the recitation. The speaker who relates Antiphon's account of

Pythodorus' account of the interview between the three famous philosophers is indeed named, but beyond his mere name we learn no more of him than that he belongs to a group of citizens of Clazomenae who take a keen interest in philosophy (μάλα φιλόσοφοι, 126*b*). Where, or to whom, he is speaking we are not told. The scene is certainly not in or near Athens, and to judge from the way in which the word οἰκοθεν, in his opening sentence, is explained by the addition ἐκ Κλαζομενῶν, it is not in Clazomenae. We are really entitled to say no more than that the story of the meeting of Socrates with the Eleatic philosophers is related somewhere by a person interested in philosophy to a like-minded audience. This complete silence about the place and the *personnel* is a thing unparalleled in the rest of Plato's dialogues. In the case of directly dramatic dialogues, the mere presence of Socrates himself provides sufficient indication of place. Even in a work which avoids all more specific references, like the *Philebus*, we are at least sure that we are to imagine ourselves in Athens or its immediate neighbourhood. The *Theaetetus* is supposed to be read aloud long after the conversation which it professes to record, but the opening discourse between Euclides and Terpsion is intended to make it quite clear when and where and in what circumstances the reading takes place. So in the *Phaedo* Plato is quite careful to direct our attention to the point that Phaedo's narrative of the master's last day on earth is delivered some little while after the event before the Pythagorean community of Phlius. With reported dialogues the case is much the same. Apollodorus in the *Symposium*, for example, expressly explains that his recollection of Aristodemus' narrative is just and vigorous because he had rehearsed the whole only a day or two before (πρόην) in conversation with a friend as he walked from his home in Phalerum to the city. In the *Republic*, Socrates repeats a conversation in which he had been the central figure only the day before, and we are told just where it had been held, in the house of Polemarchus in the Peiraeus; in the

Protagoras he has only just left the circle in the house of Callias when he meets the friend to whom he relates the events of the day. Even in the *Laws* what we may call the stage directions are perfectly clear and distinct. The *Sophistes* and *Politicus*, indeed, so far as their contents go, have nothing to indicate time and place, but both are carefully attached to the *Theaetetus* in such a way as to date them immediately after the filing of the accusation against Socrates in the spring of the year 399. That the immediate speaker in the *Parmenides* should be, as he is, quite uncharacterized, and should be speaking no one knows where and to no one knows whom, is quite against Plato's usual practice, and the departure from custom has, therefore, presumably a reason.

Still, if we learn little about Cephalus, the one definite thing that we do learn is significant enough. We are expressly told that he and his friends made the journey from Clazomenae to Athens for no other purpose than to learn from Plato's younger half-brother, Antiphon, the details of the conversation between Socrates and the Eleatics (πάρειμί γ' ἐπ' αὐτὸ τοῦτο, δεησόμενος ὑμῶν, 126*a*, and the more express statement of 126*b* just below). This conversation, we must remember, is supposed to have been held when Socrates, who was born in or shortly before 470 B.C., was still "exceedingly young" (σφόδρα νέον, 127*c*), i.e., not later than about 450. It is assumed that, at the time when Cephalus is speaking, all the persons who had actually been present on this memorable occasion were already dead, and a correct account of what happened could only be obtained from Antiphon, who, we are told, had heard the tale from Pythodorus, in whose house the meeting took place, so often that he had got it by heart (εὖ μάλα διεμελέτησεν, 126*c*). That Proclus is right in pointing out that the death of Socrates is presumed in this narrative is obvious. So long as one of the parties to the original conversation was alive, it would have been ridiculous to make Cephalus go to a second-hand source for his information.

How long after 399 Cephalus is supposed to be speaking cannot perhaps be decided. Antiphon is now no longer a *μειράκιον* but a young man, but, in the absence of any positive knowledge about the date of his birth, we can draw no inferences from this. The important point is simply that the journey of Cephalus to Athens must be supposed to happen not less than half-a-century after the meeting of the three philosophers, and quite possibly a number of years later. What may we reasonably infer from Plato's assumption of this story as the basis for his dialogue? First of all, I think it is clear that Professor Burnet is right (*Phaedo*, p. xxiii) in calling attention to Plato's habit of laying stress on the fact that he could not have been personally present at some of the scenes which he describes. Thus the device of making Apollodorus repeat at second-hand from Aristodemus the incidents of the *Symposium* serves to remind us that Plato, who was a mere boy at the time of Agathon's tragic victory, could not have been present at its celebration, and is not proposing to speak as an eye-witness. Similarly, the insistence in the *Parmenides* on the point that there is now only one person living who can satisfy the curiosity of Cephalus, and that he himself had got his knowledge, when a mere lad, from a much older man who is now dead, is an effective device for warning us that the scene to be described belongs to a very remote past, of which Plato could himself have no direct knowledge. And we may suspect that one reason for the pains which he has taken to explain how the narrative was passed on by Pythodorus to Antiphon and by Antiphon to Cephalus is to make it clear that it has been derived from sources entirely independent of himself. To the reader this means, of course, that Plato is declining to pledge his personal credit for the historical accuracy of all the details. If we find the Eleatic philosophers apparently conducting their dialectic with a special view to fourth-century controversies between Plato and his contemporaries—well, Plato has as good as told

us that he is not responsible for the accuracy of the narrative. He was not there to hear what Parmenides and Zeno actually said, and the version he puts before us makes no profession to come in any way from Socrates. It is what Antiphon professed to have learned from Pythodorus; we might be interested to know whether Socrates would have confirmed it on all points, but . . . Socrates is unfortunately no more, and, even for what Pythodorus said, we have only the recollection of one much younger man whose testimony cannot be subjected to any process of control, and must be taken for what it is worth. In no other dialogue has Plato been at such elaborate pains to make it quite clear that he has left himself free to colour his account of a conversation in the distant past with an eye to the philosophical situation in the present.

But there is another and even more important inference suggested by the opening narrative of the dialogue which, so far as I know, has never yet been pointed out with sufficient plainness. The initial assumption of the story about Cephalus and his visit to Athens is that the meeting of Socrates with the famous Eleatics was not merely an historical fact—that it was so seems to be now the current view of most writers on the history of early Greek philosophy—but that it was an event of absolutely first-rate importance. It is taken for granted that the conversation of the three philosophers was so notable that half-a-century or more afterwards it was remembered as something of remarkable interest by the friends of Cephalus at Clazomenae, who, indeed, sent to Athens for the express purpose of getting the true account of what had passed from the one person on earth who could supply it. Of course, I am not suggesting here that it is necessary to suppose that the mission of Cephalus to Athens is an historical fact. It may very possibly be no more than an artistic fiction on the part of Plato. The really important point is that Plato should have thought the story, true or false, sufficiently

plausible to make use of it as he does. It implies at the very least that the philosophers of Clazomenae took the same sort of interest in Socrates and his doings which the *Phaedo* attests for the Pythagoreans of Thebes and Phlius and the *Theaetetus* for the philosophers of Megara. Nor would it be hard to account for the existence of this interest. When all the available evidence for the dates in the life of Anaxagoras are carefully compared, it seems almost certain that the prosecution which terminated that philosopher's 30 years of residence in Athens must have occurred somewhere about 450 B.C., in spite of the general agreement of modern historians in favour of placing the event nearly twenty years later. This explains among other things why in the *Phaedo* the influence of Anaxagoras on Socrates is represented as exerted partly at second-hand, partly through his book, and nothing is said of any personal intercourse between the two men, why again in the *Greater Hippias* Socrates is made to contrast Anaxagoras as one of the "ancients" with the men of his own time, why the doxographic tradition, which goes back to Theophrastus, always mentions not Anaxagoras himself but his successor, Archelaus, as the teacher of Socrates, and finally how Anaxagoras was able, between his disappearance from Athens and his death in the opening years of the Peloponnesian War, to organise a philosophical school in Ionia, which appears to have been still in existence in the time of Epicurus. It also explains the interest of the philosophers at Clazomenae in Socrates. For Clazomenae was the native city of Anaxagoras himself, and though all the accounts agree in naming Lampsacus as the actual centre from which he propagated his philosophy after his enforced retirement from Athens, we may be sure, even if the history of Epicureanism did not prove the point, that science continued to be studied in Ionia generally, and that the fame of a brilliant pupil of Anaxagoras' successor, Archelaus, would be sure to spread to the birthplace of Anaxagoras himself. A meeting of Socrates with the great

Eleatics would be memorable as marking the beginning of the process by which the science of the Ionian East and the Italian West were for the first time brought together at the only place which, for historical reasons, was adapted to serve as a general clearing-house for Greek speculations—the Athens which was already becoming the great political and commercial centre of the civilisation of the Mediterranean basin. Hence the naturalness of the fiction, if it is a fiction, that even after more than half-a-century the event should have been so vividly recollected that the scientific men of Clazomenae sent a special deputation to recover a detailed account of it from the only living man who was in a position to supply one.

It should also be borne in mind that there are special reasons why it is humanly certain that a young man of philosophical genius living in the middle of the fifth century, and already feeling dissatisfied, as we are told in the *Phaedo* Socrates was dissatisfied, with the current Ionian views about science, would make a point of being introduced to the most famous representatives of Western ideas. In the *Parmenides* itself all that we are told by way of explanation of the presence of Parmenides and Zeno in Athens is that they had come to visit the Pânathenaic festival. To understand the full meaning of this we need to recur to information supplied partly by the poem of Parmenides himself, partly by statements made in the Platonic Corpus and elsewhere about Zeno. Our thanks for the preservation of the eschatological proem to the poem of Parmenides are due to Sextus Empiricus, who inserted the whole of it in the first of his treatises “against the dogmatists” (Sext. *Adv. mathematicos*, VII, 111). The recent re-examination of the manuscripts by Mutschmann for his still incomplete edition of Sextus, shows that according to the best text Parmenides began his verses with an invocation to the divinity ἡ κατὰ πάντ’ ἄστυ φερεῖ εἰδότα φῶτα, “who guides the man who knows through all cities.” This means, of course, that

Parmenides himself was in the habit of travelling from city to city and giving epideictic displays of his philosophy. Like the evidence, which goes back to Isocrates, for the actual education of Pericles by Anaxagoras, the allusion shows how far it is from being true that there was in the middle of the fifth century any hard and fast line of distinction between the man of science and the so-called "sophist" who undertook the "education of men" as a profession. We must not, of course, suppose that Parmenides made nothing by his *epideixeis* any more than that Anaxagoras derived no personal advantages from his position as instructor to Pericles. If Protagoras came to be popularly regarded as the inventor of the sophistic profession, we must remember both that according to the account of Plato he must have been in the field at least twenty years at the date of the visit of Parmenides and Zeno to Athens, and that the special novelty of his programme was not that he was paid for his services but that he substituted the art of political success for science as the subject of his instructions.

About Zeno the case is even clearer. It is quite beyond reasonable doubt that Zeno not only taught for pay but that he must have settled in Athens and practised his calling there for some considerable time. This is explicitly stated in a dialogue, the *First Alcibiades*, which may possibly be Platonic, and is at any rate shown by its style and contents to be a fourth-century Academic work little if anything later in composition than the latter years of Plato's life. We are there expressly told that two well known public men of the fifth century, Pythodorus son of Isolochus—and it is manifestly he, as Proclus saw, who is the Pythodorus of our dialogue—and Callias the son of Calliades, Socrates' commander, who fell honourably before the walls of Potidaea, paid him 40 minae each for his instructions. Zeno's permanent residence in Athens is equally implied by Plutarch's story that Pericles had been one of his hearers, and by the well known allusions

of Aristotle to dialogues in which Zeno and Protagoras figured as discussing problems connected with the notion of the infinitesimal. In fact, it is precisely this professional activity from which Zeno derived the name of "the sophist." Writers who wish to distinguish Zeno of Elea from Zeno of Cittium and other persons of the same not unusual name call him *ὁ σοφιστής*, not, as Mr. Bertrand Russell has imagined, by way of disparagement of his mathematical paradoxes, but simply because he did, as a matter of fact, follow the calling of a paid instructor of young men, just as we might speak to-day of "So-and-so the Army coach" or "Such-a-one the journalist." And if we will believe Plato, as there is no reason why we should not, acquaintance with Zeno's works had already had a great influence on the mind of Socrates himself in early youth. According to the famous autobiographical passage of the *Phaedo*, prominent among the difficulties which had led Socrates to the formulation of his doctrine of Forms were not only the problem raised by Anaxagoras about growth and nutrition (*Phaedo* 96c), but Zeno's puzzle about unity and plurality (96e), and the method of "hypothesis" finally adopted by Socrates as the only proper instrument of philosophical inquiry is just that method of Zeno in which the *Parmenides* represents him as receiving a lesson from the two earlier philosophers. The situation, in fact, as imagined by Plato, and as likely enough to have occurred in fact, is that Socrates has just thought out *for himself* as a theory which will solve both sets of difficulties the doctrine of Forms. (That this solution is genuinely his own is stated with the utmost distinctness. Parmenides' very first question, on hearing it (130b), is *αὐτὸς σὺ οὕτω διρήσαι ὥς λέγεις*, "Have you made this distinction of which you speak by yourself and for yourself"; *αὐτὸς* here means just what it does in such a phrase as *αὐτοί ἐσμεν*, "we are by ourselves," and it is implied in the whole passage that the answer is affirmative. The theory of Socrates is plainly something of which Parmenides is hearing for the first time, though it is so

far constructed on lines familiar to him that he only requires to hear it stated once before showing himself an acute and formidable critic of it.) Plato's assumption then is that the meeting between the Eleatics and Socrates was a memorable event in the history of Greek philosophy for very obvious reasons. Socrates had already been interested in the work of Zeno, but, according to Plato's account, had hitherto not been under the personal influence of Zeno. Zeno is, it appears, in Athens for the first time, since it is implied that all the copies of his book which have got abroad, there are reproductions of a surreptitious copy: the true text has now been brought to Athens for the first time by the author (127*c*). Such a first meeting between the greatest thinkers of an earlier generation and Socrates in the very flush of his first eager speculation must necessarily be of moment, and hence Plato can readily ask us to believe that men might take much pains to secure an authentic account of the interview even fifty or sixty years later. In fact it would be just the death of the last survivors of the party that would make persons with an interest in the history of ideas feel the necessity to obtain a narrative of the kind without further delay.

I have dwelt so long on the character of Plato's piece of introductory narrative because, as it seems to me, if I have divined its purpose correctly, an inference of some importance may be made about the reasoning to which it preludes. We shall naturally expect, if the whole work is to be of a piece, that the proper historical illusion will be kept up throughout it. However many covert shafts Plato may be aiming at contemporaries of his own living towards the middle of the fourth century, we shall expect that his drama will respect the unities sufficiently to be in its main lines true to the spirit of the fifth century. The chief lines of reasoning, however they may be worked out into detail, should be such as might naturally have been followed in a discussion of the age of Zeno. And we can see that Plato really felt this too. The

whole form of the dialogue with its ingenious antinomies has, as Professor Burnet has said, been adapted to the pretence that it is just one of those exhibitions of the Zenonian dialectic to which Aristotle refers. It pretends to be just such a dialogue as that quoted by Aristotle in which Zeno was represented as posing Protagoras with the notion of *petites perceptions* which are "beneath the threshold." It may, in my own opinion, be fairly said that, so far as the main lines of discussion are concerned, there is little if anything in Plato's *Parmenides* which might not have been said at an actual joyous passage of arms between dialecticians in the middle of the fifth century. To prove this statement completely it would be necessary to subjoin an elaborate critical commentary on the whole dialogue, taken clause by clause. But I propose to do something towards establishing the point in the present paper by singling out for consideration two arguments put forward in the early part of the dialogue which have always attracted a great deal of attention,—that which turns upon the logical objection to an "infinite regress," and that in which Plato's *Parmenides* anticipates Kant's attempt to make a formal refutation of "Idealism."

To appreciate these pieces of dialectic it is necessary to begin by understanding exactly what is the point in the doctrine of Forms, as propounded by the youthful Socrates, against which the Eleatics are directing their attack. Unfortunately modern writers on Plato have often approached the *Parmenides* with a complete misunderstanding of its main purpose. They have supposed Socrates to be asserting, Parmenides and Zeno to be disputing, the existence of "Forms which are only to be apprehended by thought." This is a misconception which is fatal to any real insight into the dialogue. Parmenides and Zeno nowhere raise any difficulty about the existence of such Forms as the proper objects of knowledge; in fact, since the very "One" of which their own philosophy speaks is just such a Form, and is, in fact, called by

that name in the poem of Parmenides himself, they could not well make a difficulty on the point. From their neglect to ask for any explanation of the matter, we must assume that they are supposed already to know quite well what sort of thing a Form is, and to have met before persons who believe in the reality of such Forms. Indeed, if Proclus is right in taking it as familiarly known that the extreme "friends of Forms" criticised in the *Sophistes* are Italian Pythagoreans, the Eleatics must have known all about the matter. What does strike them as unfamiliar in the theory expounded by Socrates is that he believes in Forms "of the things we perceive," Forms of man, horse, and the like, and it is about this very assertion of a precise correspondence between Forms and "things we perceive" that they ask the question whether he had really hit upon the doctrine for himself. The whole object of the dialectical difficulties which they go on to raise is to suggest to Socrates that it is impossible to give a coherent account of the relation asserted in his theory to subsist between a Form and the sensible things of which it is the Form, and Parmenides ends his dialectical examination of the doctrine by the express declaration that though, as can now be seen, Socrates has formidable difficulties to face before he can claim to have justified the assumption of Forms of things, philosophical thought is impossible unless there are Forms (135 *a-c*).

We have, therefore, to bear in mind that the object of the argumentation is not to throw any doubt on the existence of Forms, but to urge the need for a plain and explicit account of the relation which Socrates commonly called that of *participation*, by which a thing is connected with what he calls the Form of that thing. As Professor Burnet says, expressing the point with perfect exactness in the terminology of a later generation, it is not the existence of the intelligible but the existence of the sensible which is, according to Parmenides and Zeno, the *crux* in Socrates' theory. And, in fact, it was precisely the *crux*. In the account given in the *Phaedo* sensible things figure

as mere temporary vehicles of a number of Forms; they are, apparently, what they have sometimes been called by later thinkers, meeting-places of universals, terms which sustain complexes of relations, but what more than this a thing is does not appear. It would seem that Socrates himself felt that this could not be the last word on the matter; at any rate, he is careful in the *Phaedo* to suggest a plurality of names for the relation between thing and Form, and appears not to be wholly satisfied with his account of it. That Plato himself felt the necessity of giving a very different doctrine on the point is manifest not only from the *Timaeus* and *Philebus* but from the hints furnished by Aristotle's criticisms of him. The impression left by the *Parmenides* is that Plato at least wishes us to think that Socrates had quite early in life struck into the right line of thought, but to the day of his death had never been able to follow it up with complete success. Indeed our dialogue even professes to give the reason for his partial failure; he had never in his early life had a thoroughly adequate training in hard and dry dialectic. He was trying to define "beautiful" and "right" and "good" and the other Forms before going through a sufficient "discipline" in hard logic, or, in other words, his interests were too exclusively ethical and not logical enough. To myself, at least, this passage (*Parm.* 135 *c—d*) has all the appearance of being intended as a perfectly serious criticism aimed at what Plato himself felt to be a weak spot in the Socratic philosophy. I find it quite incredible that such a direct criticism should be levelled either at a purely imaginary person, who had no existence outside his creator's imagination, or at some unnamed person, Plato himself in an earlier stage of his development, or some disciple of Plato, or some Socratic man, under the disguise of the Master. With so much in the way of preliminary orientation we may turn to the treatment of the two specific arguments I have selected for consideration. And I will begin with the argument from the illegitimacy of the infinite regress, which occurs twice over, at *Parm.* 132 *a—b*,

and Parm. 132 *d—e*. I will begin by a fairly literal rendering of the relevant passages:—

“I suppose your reason for thinking that there is in each case such a one Form is this. When you judge that several things are big, perhaps when you consider them all you hold that there is one and the same Form, and hence you think that ‘the big’ is one.” “You are right.”

“But if you consider together in the same way *the* big and the other big things, will there not again appear one big something in virtue of which they all appear big?” “So it would seem.”

“Then there will appear a second Form of bigness, over and above *the* big and the things that partake of *the* big, and there will be a third on the top of all these in virtue of which they will all be big. Thus each of your Forms will no longer be one but indefinitely numerous.”

[Socrates hereupon makes the suggestion that the difficulty might be evaded by supposing that a Form is only a “thought in a mind,” and this leads to what I have called the *Refutation of Idealism*. He then tries the alternative explanation that the relation of a thing to a Form is simply that the Form is a type, and the thing is *like* the type. This is met by recurrence to the argument from the regress as follows.]

“Then if anything is *like* the Form can the Form be other than like that which has been stamped with its likeness, in so far as it was modelled on it? Can the like by any artifice be prevented from being like what is like it?” “Certainly not” [*i.e.*, the relation of *likeness* is symmetrical]. “And must not the like and its like both partake of one identical something?” “They must. And that by partaking of which likes are like—will not it be just the Form?” “To be sure it will.” “Then it follows that nothing else is like the Form, nor the Form like anything else. Otherwise besides the Form there will always appear another Form, and if *it* is like anything, still another, and there will be

an unending series of fresh Forms, if the Form proves *like* that which partakes of it."

The argument from the "infinite regress" is thus employed first against the general theory of the "participation" of things in forms and then, in a specialised form, against the suggested identification of the relation of "participation" with the relation between a copy of an original and the original.

The questions which naturally occur to us on reading the two passages are two, whether the reasoning ascribed to Parmenides in the dialogue is sound, and what, so far as we can still discover, was the history of this type of argument in antiquity before Plato composed the *Parmenides*? Has Plato invented the difficulty which Zeno is made to raise for himself? Or was it invented by some contemporary and unfriendly thinker as a criticism on the type of doctrine expounded in the *Phaedo*? Or is it possible to hold that it is at least historically possible that the real Zeno may have argued in this fashion against theories which were actually current in his own times? The answer usually given to these questions is, I think, that the reasoning is valid, or at least that Plato has not given any reason to think it invalid, and further that, as it is said we know from Alexander of Aphrodisias, the argument was invented by the Megarian logician Polyxenus and is identical with that often alluded to by Aristotle as the *τρίτος ἄνθρωπος* or "third man." What I propose to show is that the appeal to the regress, though valid against certain ways in which the doctrine of Forms might be understood, is not valid against anything which Plato has advanced anywhere in his writings, that there is no ground for supposing it to be identical with the argument of Polyxenus and that it is certainly not what Aristotle usually has in mind when he speaks of a certain type of argument as the "third man." I will consider first the more general form of the objection.

The argument as formulated by Parmenides at 132 amounts to this. The reason, and the *only* reason, why we should believe

in *Forms* is that when many particulars have a common predicate—*e.g.* when it is true to say of several men that each of them is *tall*—this must mean that they have a common character, a common objective determination to which the common predicate of speech answers, and this common character is *one* and the same definite determination. That is *why* we say that though the particulars are *many* there is *one* Form in which they all “partake.” But, Parmenides contends, we may once more ascribe this common predicate not only to each of the several “particulars,” but also to their “common nature” itself. We can say not only that A_1 is great or good or beautiful, A_2 great or good or beautiful, A_3 great or good or beautiful, but that *greatness* is great, *goodness* good, *beauty* beautiful, and so on. Thus if the resemblance between A_1 , A_2 , A_3 requires to be accounted for by saying that each of them is an “instance” of A , by parity of reasoning we must say that since A itself has a predicate in common with A_1 , A_2 , A_3 , there is a second Form—call it $A^{(1)}$ of which A , A_1 , A_2 , A_3 all “partake,” and the same considerations will avail to establish in the place of every Form A postulated by the theory of Socrates, a simply infinite series of Forms A , $A^{(1)}$, $A^{(2)}$, ..., $A^{(n)}$, $A^{(\omega)}$, And this, it is assumed, is an absurdity.

Now, in the first place, I should like to observe that this argument, whatever it is worth, is not directed against the reality of Forms or universals but against the possibility of appealing to that reality as a ground for believing in the revelations of sense-perception and an explanation of what we mean when we make a perceptive judgment. It is not the doctrine that there are *νοητὰ ἔιδη* and that we can be acquainted with them, but the doctrine that what we perceive by our senses—“sense-data”—“partake in” them and thus acquire a secondary reality which furnishes the starting-point of the argument, and, as I shall try to show immediately, the conclusion that there is not *one* form of “good,” “beautiful,” etc., but a whole hierarchy of orders of good, beauty, etc., is not *per se* absurd. The real difficulty is that if this is so the theory of Forms becomes

useless as a device for "saving the appearances" of the world as perceived by sense. The argument is exactly in the right place when put into the mouth of an Eleatic who wishes not to "save" these appearances, but to "give them a fall" (*καταβάλλειν τὰς αἰσθήσεις*), and if valid against Socrates it is only valid because Socrates is the champion of perception against ultra-Rationalism.

First, then, as to the validity of the general argument from the "regress," which has always been much affected by metaphysicians as an instrument for the discomfiture of their rivals. It is still often assumed that a theory which leads to an "indefinite regress" in any form is thereby logically discredited. I cannot myself agree with this view. It seems to be no better than a prejudice based on that confusion between infinity and indeterminateness which has been finally exploded by the researches of modern mathematicians into the character of infinite collections. The doctrine that only the finite has determinate structure or order is one which a few hours' study of any elementary work on the Theory of Assemblages is sufficient to explode. Hence I think Mr. Russell is plainly right in distinguishing between a harmless and a logically vicious type of the "regress." There can be no logical objection to the "regress" so long as it is constituted merely by implications between propositions. It is no objection either to the significance or the truth of a proposition p_0 to say that p_0 implies p_1 , which again implies p_2 , and so on interminably. For there is no reason why each of an endless series of propositions $\{p\}$ should not be true. In fact, on the hypothesis of "Idealists" of the kind who usually make the most frequent employment of the "regress" against their opponents, every *true* proposition p *must* imply an infinite series of true propositions. For they commonly hold that a proposition cannot be true without being actually known by some mind and that this is part of what we *mean* by calling p true. Hence the true proposition p implies, on their theory, the true proposition, " x knows p ," and this, being itself a true

proposition, again implies " y —who may of course be identical with x —knows that x knows p ," and so on *in indefinitum*.*

Professor Royce has correctly drawn this conclusion, and since it is a fundamental article of his philosophical belief that to be known by some one is part of what we mean by being true, he rightly accepts the view that this particular "regress" must be accepted. But he seems also to make the further assumption, which is not warranted by his premisses, that it is *never* an objection to a philosophical doctrine that it leads to the "regress." Here, again, I think Mr. Russell clearly right in holding that there is one kind of "regress" which is always fatal to any hypothesis which implies it. No intelligible proposition can be such that an infinite "regress" arises in the very attempt to state its meaning. An apparent proposition p_0 which turns out to be such that we cannot state its meaning without first stating as parts of it that meaning the infinite series of propositions $p_1, p_2, \dots, p_n, \dots, p_\omega, \dots$, must be no proposition at all but a mere unmeaning noise. For, as we can never exhaust an infinite series by enumeration of its terms, we could never know definitely what such a p_0 means, and every proposition must have a fully determinate meaning. Hence for us, at any rate, p_0 is no proposition at all. The importance of this distinction will be seen when it is remembered that the attempts made by philosophers, and notably by Kant, to discover contradictions in our notions of space and time involve only a "regress" of the harmless kind; they only show that certain propositions, if true, involve the truth of an infinity of certain other propositions, as there is no reason why they should not. So, again, if Zeno's well-known argument from indefinite divisibility were alleged as a reason for denying that a line can be divided at all, there would be an

* This doctrine must be carefully distinguished from the statement given in all works on symbolic logic that "true propositions are implied by all propositions." The reference here is to "material implication"; what the philosophers referred to in the text mean is apparently "formal implication,"—a very different thing.

open fallacy. It was only valid *ad homines* because part of the case of his opponents was that a point is a minimum length. As an argument for Spinoza's thesis of the indivisibility of real extension it is no more cogent than it would be to argue that there can be no such number as 1 because there is an infinity of rational fractions less than 1. We cannot, however, meet the argument of Parmenides against Socrates by urging that the "regress" of which he speaks is of the harmless kind. If he is right in finding that "regress" in the theory of μέθεξις, the "regress" is vicious and shows that the theory of Socrates is indefensible. For the reasoning is as follows: Two things A_1 and A_2 are both A (e.g., Socrates and Zeno are both men), because they have a common "nature" (humanity), and it is *only* because they possess this common nature that we can truly predicate the same term of them. But we can predicate A of A itself in *precisely the same sense* in which we predicate A of A_1 and of A_2 (i.e., we can say that Humanity is human, or Man is a man, exactly as one can say Zeno is human or Socrates is a man). Hence A , A_1 , A_2 must, on our own theory, have a still more ultimate common nature, and so on indefinitely. Hence you will never be able to say exactly what it is that Zeno and Socrates have in common; you do not know what the predicate you assert about both of them *means*.

Thus the solution of the puzzle, if there is one, cannot lie in admitting the "regress" but pronouncing it harmless; if the theory of Socrates is to be defended at all, it must be shown that the alleged "regress" does not really arise. That is we must deny the tacit premiss of Parmenides that a universal can be predicated of itself as it is predicated of its "instances." A_1 and A_2 , we must say, have the common nature A , or are "instances of" A , but A and A_1 are not two "instances of" A ; A has not to itself the relation it has to A_1 or to A_2 . We may say of two white things that each of them is white, but we must not say in the same way that whiteness, or white, is white. Or, to use Plato's language,

which makes the point clearer, though we may say that a white surface *has* whiteness, or white colour, we must not say that white colour, or whiteness, *has* white colour or whiteness. We must say that a concept, or meaning, or intension can be predicated of each constituent of the corresponding extension, but can never be *predicated* of itself,—in fact that the subject-predicate relation is an alio-relative. This seems to me an obvious truth which is only concealed from us by the linguistic fact that we commonly use the same word “is” to symbolize both predication and identity. “White is white,” “goodness is goodness,” and the like, if they are significant expressions at all, are not predications but assertions of identity. They mean that “white is the same thing as white,” etc., but “Socrates is a man” does not mean that Socrates is identical with Man. To say that snow is white means that snow *has* the colour white. What that means I must not discuss here, but, whatever it means, it would be nonsense to say that whiteness, or white colour, has a white colour, as snow has. White *has* not itself any colour at all; it *is* a colour. The solution of Parmenides’ puzzle, then, is simply that identity and the relation of predicate to subject are different and disparate, and this is why every system of logical symbolism has always found it necessary to avoid the trap laid for thought by the inexactitude of ordinary speech in this matter. Hence the alleged “regress” does not really arise from the original statement about the “participation” of things in Forms or universals. It arises not from the doctrine of Socrates himself but from Parmenides’ skilful combination of what Socrates had said with the further premiss that the Form “participates in” itself. (τί δ’ αὐτὸ τὸ μέγα καὶ τὰλλα τὰ μεγάλα; οὐχὶ ἐν τι αὖ μέγα φανεῖται, ᾧ ταῦτα πάντα μεγάλα φαίνεσθαι, 132a.) So, to recur once more to my example, the “common nature” of all white things is just their white colour, but the “common nature” of a thing and a colour cannot itself be a colour, and *you do not need to know what it is* in order to know what the white colour which is the

"common nature" of all white things is. You can know what "white" is without requiring to have any view on the question what colours and things other than colours have in common. Hence no "regress" is involved in the *meaning* of the assertion that such-and-such a particular "partakes" in such-and-such a Form. It is perhaps important to note that the source of the apparent fallacy, the ambiguity of "is," is also, as Plato was to show in the *Sophistes*, the source of all the old "eristic" difficulties about negative propositions. Since, as every one admits, Plato saw and explained the ambiguity so far as it affects the possibility of significant denial, it is only reasonable to suppose he was aware of the presence of the same ambiguity in the argument we have just analysed. But it would have been bad art, and probably also bad history, to allow the youthful Socrates of the dialogue to see through and expose the fallacy. Consequently Plato does not let him discuss it at all. He is made to turn without discussion to a fresh point. Historically, I take it, this means that the appeal to the "regress" had been used against the doctrine of *μέθεξις*, but presumably after the death of Socrates himself. The persons who used it must have meant primarily not so much to discredit the doctrine that the proper objects of knowledge are intelligible Forms as to deny that these Forms are in any way connected with the things and events of the perceived world. That is, they must have been logicians with an ultra-intellectualistic bias like the "friends of Forms" mentioned in the *Sophistes* whom Proclus identifies with Italian Pythagoreans.

The detailed examination of the history of the argument has to begin with the consideration of certain passages in the *Metaphysics* of Aristotle and the explanation given of these passages by Alexander of Aphrodisias. Aristotle more than once makes the statement that the "most finished" versions of the theory of Forms lead to a difficulty which he speaks of as the "third man." Thus at *Met. A*, 990b, 15, where he is arguing that the reasons currently given in the Platonic

school for believing in the Forms and their relation to the world of sense-data are not above criticism, he says “ἐτι δὲ οἱ ἀκριβέστεροι τῶν λόγων οἱ μὲν τῶν πρὸς τι ποιοῦσιν ιδέας . . . οἱ δὲ τον τρίτον ἄνθρωπον λέγουσι “of the more accurate (but the meaning is rather ‘more finished,’ ‘more subtle’) arguments, some lead to Ideas of relations . . . others involve the difficulty of the ‘third man’” (Tr. Ross). The same remark occurs, and, so far as the words I have cited go, in identical language, except that ἀκριβέστατοι is substituted for ἀκριβέστεροι at *M*, 1079*a*, 11. From the facts that Alexander in his commentary refers to the argument with which we have just dealt as an example of a “third man” argument, and also mentions the Megarian “sophist”—*i.e.*, formal logician—Polyxenus as the inventor of a form of the “third man,” it has become customary to say that τρίτος ἄνθρωπος is a name for what we call the appeal to the “indefinite regress,” that the controversial use of this appeal was invented by Polyxenus, and that it is to this that both the *Parmenides* and the Aristotelian references allude. According to this now generally accepted view, Plato is here recalling and dramatically ascribing to Parmenides a criticism directed—so it is assumed—against Plato himself by Polyxenus. The dramatic justification of this is that Polyxenus belonged to a school whose founder Eucleides was originally a disciple of Parmenides. If, however, we read the passage of Alexander with proper care, we shall see that we must not assume without discussion either that Polyxenus invented the particular argument rehearsed in the *Parmenides*, or that it is the *Parmenides* argument to which Aristotle is alluding in the *Metaphysics*. We must therefore consider the whole question for ourselves in a little detail.

It may be as well to begin with a brief statement of what is known about the personality of Polyxenus. Our one contemporary reference to him comes from the correspondence between Plato and Dionysius II. In the last letter of the correspondence as arranged in our texts, which is also the earliest in order of time and belongs to the year 366–5, Plato

mentions that he is sending to Dionysius a person whose society will, he hopes, be agreeable to him and to Archytas. This person is Helicon of Cyzicus, a member of the astronomical school of Eudoxus, and, Plato adds, one who has enjoyed the society of a certain unnamed pupil of Isocrates and Polyxenus, one of the disciples of Bryson (τῶν Βρύσωνός τινι ἐταίρων, 360c). Thus Helicon was apparently selected by Plato on the ground that he would be able to represent at once the mathematics and astronomy of Eudoxus, the political ideals of Isocrates, and the formal logic of the Megarians; from the context it is clear that, though Plato thought well of his man, his feelings towards persons of Megarian antecedents were not at this date over-cordial. The important point for my purposes is, however, that the reference gives us, in a rough way, the date of Polyxenus. He is a disciple of Bryson, whose interesting contributions to the problem of the quadrature of the circle are discussed by Aristotle in the *Posterior Analytics* and *Sophistical Refutations* in an unappreciative and pedantic way, which shows that the *maestro di color che sanno* did not really understand the nature of the problem. Now, Bryson was one of the original members of the Megarian school, and had been a personal associate of Socrates, as we see from the fact that Theopompus, the historian, a pupil of Isocrates, in an attempt (fr. 247) to depreciate Plato, charged him with borrowing his ideas from Aristippus, Antisthenes, and *Bryson*. Polyxenus thus belongs to the second generation of the school of Eucleides, and must be, roughly speaking, contemporary with Plato, so that it is quite credible in itself that he may be the author of criticisms referred to by Aristotle and by Plato himself in a work as late as the *Parmenides*.

I can hardly carry the discussion further without actually quoting almost in full what Alexander said about the "third man" in his comment on *Met. A*, 990b, 15, as there are several points in his statement to which I would direct attention. This, then, is what he says:—

"The argument which brings in the 'third man' is as follows: They (*i.e.*, the believers in Forms) say that the substances which are predicated generally are the true and proper substances (*κυρίως εἶναι τοιαῦτα*. *I.e.*, the Academy, unlike Aristotle, who regards individual things like 'this horse,' 'this man,' as the primary substances, regard universals or kinds, 'man,' 'horse,' etc., as the 'true and proper' substances, whereas Aristotle will only allow them to be called substances in a secondary and derivative sense), and that these are the Forms. Further, things which are *like* one another are so in virtue of participation (*μετουσία*, a word never used by Plato in this connection, as Professor Burnet has noted) in one and the same something which properly is that (*i.e.*, is 'horse' or 'man,' or whatever each of two like things is said to be), and this is the Form. But if this is so, and if that which is predicated in like manner of several things, when not identical with any one of those things, is another thing over and above them—and it is just because the Form of Man, though predicated of particular men, is not identical with any of them that it is a *kind*—there must be a *third* man besides man particular—as, *e.g.*, Socrates or Plato—and the Form, which last is also itself numerically one.

"Now, there was an argument used by the sophists and introducing the 'third man' to this effect. If we say 'there is a man walking' we do not mean that Man, in the sense of the Form, is walking—for the Form is unmoving—nor yet a determinate particular man—and how can we mean this if we do not recognize the man? We are aware that *a* man is walking, but not *who* the particular man is of whom we assert this; we are saying that another *third* man different from these (*i.e.*, different from both Man and from this or that man whom we know) is walking. Ergo, there is a *third* man of whom we have predicated that he is walking. To be sure, this argument is sophistical, but an opening is made for it by those who postulate the Forms. And Phantias says, in his reply to

Diodorus, that the sophist Polyxenus introduces the 'third man' in these words: 'If man is man in virtue of partaking and participation (κατὰ μετοχήν τε καὶ μετουσίαν, both words non-Platonic in this sense) in the Form or αὐτοάνθρωπος, there must be a man who will have his being correlatively to the Form. This cannot be the αὐτοάνθρωπος, who is the Form, nor yet the particular man who is by participation (μετοχή) in the Form. The only alternative is that there is yet a third man who is relatively to the Form.

"The 'third man' is also demonstrated thus: If what is truly predicated of a plurality of subjects is a reality alongside those of which it is predicated and distinct from them—and those who postulate the Forms believe they can prove this . . . , if so, I say there will be a 'third man.' For if *Man* as predicate is other than the *men* of whom the term is predicated, and has a substantial being of its own, and if *Man* is predicated in like manner, both of particular men and of the Form, then there must be a third man distinct both from the particular men and from the Form. And in the same way a fourth, predicable in like manner of this third man, of the Form and of the particular man, and again a fifth, and so on in *indefinitum*. This argument is identical with the first, since it was assumed that like things are like in virtue of their participation (μετουσία) is one and the same thing."

Now, it is to be observed that we are here offered three distinct arguments, each of which brings in a "third man"; one is ascribed to the "sophists," that is, according to the Aristotelian use of that word, the Megarian logicians generally, the second by name to the Megarian Polyxenus, and the third is identical with the argument put by Plato into the mouth of Parmenides. It is only in this last version, which Alexander gives in two forms, that any question of a "regress" arises, and *this* argument is not that attributed to Polyxenus. The other two will easily be seen on analysis to be of a quite

different type. The first, that of the "sophists" generally, is based on the ambiguity of the indefinite article, or, in Greek, of the common noun without any article. If I say, as I quite well may, "a man is walking down the street" without knowing *what* man it is whom I see at the far end of the street, though I am saying what is true and significant, I plainly do not mean that "humanity" is going down the road. Particular men may be met in the Strand, but you would hardly expect to encounter Man, "the substance of men which is Man," there. And I do not mean that this or that known man, Lord Kitchener or Mr. Russell, is going along the Strand, since by hypothesis I do not know who the man in question is. Hence besides "Man" with the capital and Lord Kitchener or Mr. Russell, the words "a man" or "man" must have some third sense. This is, of course, simply true. When I say "Man is fallible," I mean by Man what Socrates would have called "just man," the *Form* of man. When I say "a man wrote *Hamlet*," if I have any knowledge of English literature I mean that *Hamlet* was written by a particular man whose name, birthplace and so forth I could mention if I chose. But when I say "a man wrote *Junius*" I—who am not convinced by any hypothesis yet put forward on the identity of *Junius*—mean neither that the Form of man, Man with the capital, wrote *Junius* nor that, e.g., Philip Francis or Edmund Burke wrote *Junius*. I really mean to assert the disjunctive proposition "either *a* wrote *Junius*, or *b* wrote *Junius* or *c* wrote *Junius* or . . ." and so forth, where *a*, *b*, *c* . . . stand for the different individuals of English speech who were alive and adult during the whole period in which the *Letters of Junius* were appearing. I mean that some one of this set, though I do not know which, was the author. That this observation was well worth making is shown by the fact that Mr. Russell, who is something very much like a modern Megaric, has had to make it again at some length in his *Principles of Mathematics*. But it is not in any way inconsistent with the theory of Forms. It is no objection to a doctrine of

universalia in rebus or even of *universalia ante res* to say that it cannot tell me which of the many beings who "partake of" humanity wrote the *Letters of Junius*. If, as would seem, the argument is Megarian, it shows no trace of being directed against Socrates or Plato; it is merely a correct reflection on the ambiguity of the article such as would naturally occur to anyone interested in the formal development of logic.

The argument of Polyxenus is rather different and distinctly more subtle. Our view of its exact purport must depend on a point of textual criticism. In my rendering I have followed, with just a shade of doubt, a transposition of the words of one clause suggested by Clemens Bäumker. Professor Burnet, in his recent work on *Greek Philosophy from Thales to Plato* does the same thing, but oddly enough subjoins an interpretation which seems only possible if the transposition is *not* made. As I understand the passage, the argument is this, According to the theory of Forms, *man* means (1) the Form of Man, (2) each of the particular men who, on this theory, have an inferior kind of reality due to their "participation" in the Form. Thus *man* in sense (1) is identical with the Form, in sense (2) depends on and derives his being from the Form. Polyxenus maintains that there must be a third sense intermediate between the two. There should be a "man" who is not identical with the Form and yet is "on the same footing" with it, not derivative like the "particular" man. The point of this can, I think, be best illustrated by what we know to have been Plato's doctrine about the objects studied in geometry. As we know from Aristotle, he held that these "mathematicals" are "intermediate" between Forms and sensibles. Thus the Form of circularity is one and only one; the circle as a type of plane curve is one determinate type, and all circles belong to this same type. The round figures we draw with ink or chalk are not really true to the type; they are only approximations, or, in the language used by Socrates in the *Phaedo*, "they are not circles, but would like to be circles if they could." But the

circles of which Euclid reasons stand in an intermediate position, There are *many* of them. We talk, *e.g.*, of *two* circles which cut or touch, or of a nest of concentric circles, or of the three circles each of which touches one side of a triangle and the two other sides "produced." Yet each of the geometer's many circles is an *exact*, and not, like the visible round figure, a merely approximate realisation of the one type. Now, as I understand Polyxenus, he was arguing that on the theory of Forms there ought always to be something which mediates between the Form of Man and the imperfect embodiments of it which figure in actual life as the geometer's circles mediate between "*the circle*" of Analysis and the things we draw on paper or on the blackboard. But *there seems to be no such thing in the case of Man*. This reasoning is most naturally understood as a criticism directed against that very extension of the doctrine of Forms from mathematics to cover the realm of organisms about which Socrates himself is made to express a doubt in our dialogue at p. 130 *d*. If this was really the point Polyxenus intended to make, his criticism appears to me to speak very highly for his philosophical acumen. Plato himself indicates in the passage to which I have just referred that the recognition of Forms of organisms is one of the most ticklish points in the whole theory. How he himself in the end escaped from the difficulty cannot be considered here, as any serious discussion of the matter would require an elaborate investigation of what Aristotle has told us about the Platonic reduction of philosophy to arithmetic. But it may at least be said that the Platonic doctrine, as known to Aristotle, only preserves the conceptions ascribed in the *Phaedo* to Socrates by a transformation which makes them at first sight almost unrecognisable. For my present purpose it is enough to note that if I have rightly discerned the real point of Polyxenus, his criticism must have been specially directed against Plato himself and no other, and this would explain why it is, as a matter of fact, never answered in the *Parmenides*, where it would be an anachronism

to put Platonism, as distinct from the cruder doctrine expounded in the *Phaedo*, into the mouth of the youthful Socrates. For the conception of this gradation from Forms or numbers through mathematical down to sensibles is always connected by Aristotle with what he represents as the personal theories of Plato. He ascribes it to Plato as peculiar to himself, as an *ἴδιον Πλάτωνος*, in a way in which he never ascribes the general theory of Forms to him. Professor Burnet, who takes a different view, remarks, indeed, that the words used in the account given by Alexander on the authority of Phantias of Eresus, an original member of the Lyceum, of what Polyxenus had said, to represent the relation between a Form and a sensible, *μετουσία, μετοχή*, are not technical terms of Plato's vocabulary, and infers that the argument of Polyxenus was not specially directed against Plato. I do not myself think the inference of much weight. If it proves anything, it should surely prove that the criticism of Polyxenus was not directed even against Socrates, for it is Socrates who, in Plato's writings, habitually talks of *μέθεξις* as the relation between sensibles and Forms. The only other person in the dialogues who ever says much about the matter is the Pythagorean Timaeus, and he avoids the use of the words *μετέχειν* and *μέθεξις* in a very remarkable manner, for which I shall directly give the true reason. But if the argument is meant neither to tell against Socrates nor against Plato, against whom is it directed? Do we know of any other "friends of Forms" who held the view that sensible things are what they are by "participating" in Forms at all, except just Socrates and his associates? Professor Burnet who, like myself, regards this account of sensible things as the distinctive contribution of Socrates to the theory of Forms is, I think, under a special obligation to face this question.

With regard to his one definite argument, that from the un-Platonic character of the words *μετουσία* and *μετοχή*, I might remark (a) that even if it were absolutely certain that

the actual words of Polyxenus have undergone no modification in reaching us at two removes, I see no reason why his preference for *μετοχή* as the verbal noun to *μετέχειν* should be regarded as proof that he is not thinking of Plato. *μετοχή* is, at any rate, as old as the fourth century as a verbal noun to *μετέχειν*. Thus in *Met. Z* 1030a, 11 ff., we are told that "nothing which is not a species of a genus will have an essence (*τὸ τί ἦν εἶναι*), only species will have one, for in these the subject is not held to *participate* in the attribute" (*ταῦτα γὰρ δοκεῖ οὐ κατὰ μετοχὴν λέγεσθαι*), where Alexander in his commentary sees a direct allusion to the Socratic-Platonic doctrine. *δύναται τὸ οὐ κατὰ μετοχὴν νοεῖσθαι ἀντὶ τοῦ οὐ κεχωρισμένα ἐστὶ τὰ εἶδη καὶ οὐ καθάπερ φησὶ Πλάτων κατὰ μετοχὴν αὐτῶν τὰ καθ' ἕκαστά ἐστιν*, "the words *is not held to participate* may be understood to mean that the species are not separable, and individuals do not exist in virtue of *participation* in them, as Plato asserts" (Alexander *in loc.*). Eudemus also uses *μετοχή* as the noun of *μετέχειν* in *Ethica Eudemia*, 1217a, 29, though without reference to the theory of Forms. The word indeed is used by Plato himself in one of his latest writings, *Ep. VII*, 344e, though not in a technical sense, *ὡς παιδείας δὴ μέτοχος ὢν, ἧς οὐκ ἄξιος ἦν ἀγαπῶν δόξαν τὴν περὶ τῆς μετοχῆς γενομένην*. *Μετουσία*, again, though not a Platonic or Aristotelian word, is no coinage of a later age but belongs to the Greek of Aristophanes and Demosthenes, and I have observed the use of it in later Platonists as an equivalent for the Platonic *μέθεξις*. (b) And, as an illustration to show that inferences from verbal expressions must not be pushed too far, I would remind Professor Burnet that he himself expresses a well-founded doubt whether the name "indeterminate duality" given by Aristotle to the continuum called by Plato the "great-and-small" is Platonic, though he has, of course, no doubt that the concept is characteristically Platonic. Similarly, it is notorious that Aristotle expresses the Platonic theory of matter by the

statement that "Plato says in the *Timaeus* that space ($\chi\omega\rho\alpha$) and matter ($\epsilon\lambda\eta$) are the same, though Aristotle must have known that as a matter of language the *Timaeus* does not use the word $\epsilon\lambda\eta$ in the sense of "matter" at all. I am, therefore, not convinced by the linguistic argument that the reasoning of Polyxenus is aimed at some one other than Plato.

Now let us see how the argument will be affected if we refuse to make the transposition of words introduced by Bäumker into the passage about Polyxenus. In the MSS. of Alexander the text runs thus: "If man is man by partaking or participation in the Form or $\alpha\upsilon\tau\omicron\alpha\acute{\nu}\theta\rho\omega\pi\omicron\varsigma$, there must be a man who has his being relatively to the Form. But neither the $\alpha\upsilon\tau\omicron\alpha\acute{\nu}\theta\rho\omega\pi\omicron\varsigma$ who *is* the Form, nor the particular man, is in virtue of participation in the Form. The remaining possibility is that there should be a third man who has his being relative to the Form." If this is what Polyxenus said, he must mean one and the same thing by "having one's being relative to" the Form and "partaking in" the Form. The sense then is: What do you mean by the man who is said to "partake in" the Form of man? You cannot mean Man, because Man does not "participate in" but *is* the Form. And you do not mean this or that actual man; therefore you must mean "man" in some unintelligible third sense. Thus understood, Polyxenus simply assumes it as conceded by those against whom he is reasoning that this and that man do not "participate in" the Form, that is, as Professor Burnet says, the actual men stand in *no* relation to the Form. He is not attempting to prove this but making it one of the premisses of his syllogism. But once more we have to ask ourselves against whom such a polemic can be directed. Can we point to any "friends of Forms" who admitted that things of some kinds "partake of" Forms but held that none of these things are sensibles? Such a theory is, no doubt, an abstract possibility. We can imagine a philosopher holding that all the "things" which "partake in" Forms are what Plato called

"mathematicals,"—the many circles, triangles, etc., of the geometer, not "sensibles." And something like this may—nay, almost must—have been the doctrine of the Pythagorean "friends of Forms" criticized in the *Sophistes*. But Aristotle is explicit and emphatic on the point that the phrase about "participation" was never Pythagorean. The Pythagoreans, he says at *Met.*, *A*, 987, *b* 11, "said that things are by *imitation* of the numbers, whereas Plato said it was by *participation*." (This, I may observe in passing, is the simple explanation of the fact that the Pythagorean speaker in the *Timaeus* talks throughout of *μίμησις*, not of *μέθεξις*.) And he is equally clear in the same context that it was *sensibles* which were said to "have their being by participation." Thus, whether we follow Bäumker in his transposition or not, it still seems to me plain that the argument of Polyxenus is aimed against either Plato or Socrates as he is represented in Plato, and more probably than not against Plato himself.

As I understand Alexander's account of the matter, he means that this argument is a special application of the more general one to which he refers simply as an "argument of the sophists," and of which he says that it was provoked by those who "separate the common (nature) from the particulars." This seems to mean that even the more general form of the argument was devised for the purposes of the polemic against Plato. I agree with Professor Burnet that Alexander does not say that Polyxenus invented the "third man," but only that he "brought it on the stage" (for this seems to be the metaphor underlying the expression *εἰσάγειν λόγον*), but I think he means that the special form of it which he quotes from Phantias was due to Polyxenus. However this may be, the really important point is that the argument ascribed to Polyxenus, like that put down more vaguely to "the sophists," does not turn on an indefinite "regress." You could not use either of these "sophisms" to show that there must be a "fourth" or "fifth" man, and Alexander shows himself to be quite aware

of this. Hence I think that we must at least come to the conclusions that—

(a) The argument from the “regress” is only one special form of a type of reasoning popularly known as the “third man.”

(b) This type of reasoning was clearly quite well known in the time of Aristotle, since he would not otherwise have referred to it by a nickname. Even the special form which brings in the “regress” was no novelty when Plato wrote the *Parmenides*, since he makes Socrates allude to it in passing as something that requires no detailed explanation in a much earlier dialogue (*Republic*, 597c).

(c) The version of the “third man” specially due to Polyxenus does not bring in the “regress,” and therefore cannot be what Plato has in view in the *Parmenides*.

If I am asked from whom then did the argument about the “regress” come, I have to answer that I do not at present know. But one thing at least is significant. In the *Parmenides* this argument is used twice, once, as we have seen, against the notion of sensibles as “participating in” Forms, and a second time against the notion of sensibles as copies of Forms. That is, it is used against the Pythagorean as well as against the Platonic formula. This suggests that the argument is very possibly originally anti-Pythagorean, and that the employment of it against the *μίμησις* formula may go well back to the fifth century. In fact, it belongs to the same class of reasonings as those of Zeno against infinite divisibility and has all the appearance of coming from the same source. I see no anachronism therefore in supposing that it comes from Zeno himself, and is just the sort of objection that would probably have been made by him and Parmenides to the youthful Socrates if he expounded to them the doctrine which the *Phaedo* represents him as formulating in his early manhood. Indeed I shall be surprised if Zeno had not already used the “sophism” against the Italian “friends of Forms.”

In the face of these results, it is not unreasonable to raise the question whether, in spite of his modern interpreters, Aristotle is really thinking of the "regress" at all when he urges that the most "finished" discourses of the Academy lead to the difficulty about the "third man." He *might* be referring to one of the "third man" arguments which do not bring in the "regress." It is true that Alexander seems to have taken the same view as the modern interpreters, since his explanation of this remark identifies the objection meant by Aristotle with that which he raises at *Met.*, *A*, 991, *a* 1, which is a simple reproduction of the *Parmenides* passage (see Alexander in *Metaphysica*, 991, *a* 1). But against this I would set the consideration that none of the other passages in which Aristotle speaks of the "third man" seems to have any connection with the "regress."

At *Met.*, *Z*, 1039, *a* 2, there is a passing reference in connection with an argument to prove that no "universal" is an *οὐσία*, an individual *substance*, and that consequently all "universals" are attributes, not things (*οὐδὲν σημαίνει τῶν κοινῇ κατηγορουμένων τὸδε τι ἀλλὰ τοιόνδε*). If you deny this, Aristotle says, "the third man and other difficulties will arise." There is nothing here to show that he is thinking of the "regress," and it is more natural to suppose that he is not. The sense seems to be simply this. Suppose that a "universal predicate" really is the name of a *this* or individual thing. Then when I say "Socrates is a man" what *this* is denoted by the word "man"? Not the Form, for the Platonists themselves, at whom the argument is aimed, say that Socrates *is* not the Form, but only "partakes of" it. And not a determinate individual, Socrates or another, since "Socrates is Plato" would obviously be false, whereas "Socrates is a man" is true, and "Socrates is Socrates" manifestly, though true, does not mean the same thing as "Socrates is a man." Thus if the word "man" in the supposed proposition denotes an individual *this* at all, it must denote a *third* man, who is neither Socrates nor Man with a big M, and

this, it is assumed, is absurd. It is quite clear, I think, that this is all that Aristotle means here.

A second passage occurs in the very doubtfully authentic book *Met.*, *K*, 1059, *b* 8. Here again there is no question of a "regress," and the argument is exactly that which I have supposed to be intended by Polyxenus, that if there are Forms answering to all universals, there ought also to be men and horses and the like intermediate between the Forms and the sensible things, just as the "mathematicals" are intermediate between Forms and visible diagrams. The writer's words are "Even if one postulates the Forms there is a difficulty about the question why it is not with other things of which there are Forms as it is with mathematical. I mean that they place the mathematical between the Forms and sensibles as a third class over and above the forms and the things in our world (*οἶον τρίτα τινὰ παρὰ τὰ εἶδη τε καὶ τὰ δεῦρο*, *b* 7), but there is no third man or third horse besides the Form and the particulars (*τρίτος δ' ἄνθρωπος οὐκ ἔστιν οὐδ' ἵππος παρ' αὐτόν τε καὶ τοὺς καθ' ἕκαστον*).

The one other reference to the "third man" in the Aristotelian corpus is in the work *On Sophistical Refutations*, which is in effect an unfriendly examination of the formal logical paradoxes of the Megarian school.

At 178, *b* 36, in an account of the fallacies of figure of speech—*i.e.* fallacies which arise from confusing one "figure of predication" or "category" with another—Aristotle includes among them the argument that "there is a third man over and above the Form and particular men" (*ὅτι ἔστι τις τρίτος ἄνθρωπος παρ' αὐτὸν καὶ τοὺς καθ' ἕκαστον*.) This argument, he says, is one of the fallacies of "figure of speech" because it turns on treating a general term such as "man" as if it stood for *τόδε τι*, a *this*, whereas it really stands for a *τοιόνδε*, a *tale* or *such*. That is, in Aristotelian language, it mistakes an attribute or predicate for a substance—a substance being by definition just that which can only be subject, never predicate, in a proposition.

The reference again is manifestly not to fallacious appeals to the "regress,"—it would be quite impossible to regard these as "*in dictione*"—but to the simplest form of the "third man" argument. Alexander rightly says in explaining the passage that the argument meant is that according to which when we say "a man is walking" we are speaking neither of Man nor of a determinate and known man. *I.e.*, the fallacy lies in treating the words "a man," when they really mean "one and only one of the members of the class man, but I do not know which member," as if they meant "this particular man whose name I could give if I chose." Aristotle's own remark on the logical error is that "it is not the *isolating* (or *separating off*, τὸ ἐκτίθασθαι) of the universal which leads to the 'third man,' but the assumption that the 'isolated' universal is a *this*,"—*i.e.* a particular existent (*S.E.* 179, a 3). The paradox, that is, is not due simply to the legitimate insistence on the distinction between "some man or other" and "this particular man," but to the further illegitimate assumption that "some man or other" is an object of the same type as Zeno, Socrates or Plato, though different from them.

We are justified then in saying that though, as Alexander tells us, Aristotle had made some use of the argument from the alleged impossibility of the "regress" in his lost work *περὶ ἰδεῶν*, there is no passage in his extant works in which the *τρίτος ἄνθρωπος* need be understood as referring to the "regress." It need not be understood so in his remark that certain Platonic arguments about the Forms lead up to the "third man"; it cannot be understood so in any of the other passages. I conclude then that Aristotle's allusions to the "third man" as a paradox implied by Plato's theories about Forms has nothing to do with the problem of the "regress." He only means that on the interpretation he always gives to Plato's language, *viz.*, that the Form is a kind of particular existent, it *would* be a valid objection that the subject of such a proposition as "some man or other is walking" must also be *another* particular thing.

Before I proceed to deal more briefly with the second

argument from the "regress," I will, to keep to the actual order of development in the *Parmenides*, examine the section which immediately follows that we have just dismissed, and which I called the *Refutation of Idealism* (*Parmenides* 132bc).

Socrates now makes the suggestion that all the difficulties about the unity or multiplicity of the Form may be avoided if we look on Forms merely as "subjective," as "ideas in our own heads," or, in his own words, as "thoughts" (*νοήματα*) which are not "in" things at all, but only "in souls" (*ἐν ψυχαῖς*), i.e., in the minds that think the thoughts. If a Form is just a "thought" and is not really "in" anything but the mind which has the thought, it seems obvious that my thought of "man" is the same thought whether I think that Socrates is a man or that Zeno is a man. So we seem here to have an account of Forms which allows of the "presence" of one Form to many particulars without leaving an opening for an opponent to urge that the Form cannot be really one if the particulars are really many. For now all that will be meant by saying that the one Form is present to many things will be that we can think the same predicate of each of them—and this seems to be a fact of every-day experience. Such a doctrine clearly amounts to what in modern days is called "Idealism" in the strict and proper sense of a much-abused word—the view that the "unity" or "common nature" of a class, and similarly the relations which connect existents ("double of," "cause of," "husband of," and the like), are the "work of the mind" or are "put by the mind" into a "raw material" supplied by sense.

I shall therefore use the name "Idealism" for the view which is thrown out in this section of the *Parmenides*, merely adding that in some degree or other this view has deeply coloured most European philosophy from Locke's time to our own. By calling the section a *Refutation of Idealism* I mean, that it is a refutation—and to my mind the neatest and most unanswerable I know of—of the theory that unity and relational order are the "work of our minds" or "put by our

minds" into experience. The Platonist point is that we no more "put" the universal into things than we create "things" by perceiving them or thinking about them. We *discover* a pre-existing order just because it is there to discover. (It is true that Plato also held that order is the "work of the mind" in the sense that it has been "put into" things by God, but he did not hold that God's knowledge that things are relationally ordered is the logical *prius* of their being so ordered.)

In view of the confidence with which it is often asserted on the strength of a glaring fallacy of ambiguity that Plato was an "Idealist" in some modern sense of the word, it should be noted that the present passage is the only one in all his works where it is ever suggested that a Form is an "idea in the mind" or a "mental state," and that the suggestion is only made to meet with a refutation which is unanswerable and is accepted as such by Socrates (132*c*, ἀλλ' οὐδὲ τοῦτο, φάναι, ἔχει λόγον). This, of itself, should show that the interpretation of Plato which goes back to Philo the Jew, and still has its defenders, according to which a Form is a "thought in the mind of God," is untenable. It is true that in his Refutation of Idealism Plato is thinking, primarily at least, of thoughts in the minds of men, but the principle of his argument would be valid against the attempt to identify the universals which pervade the world, and give it its structure, with processes in any mind whatsoever. Plato would have agreed in principle with the admirable observations of Bolzano (*Wissenschaftslehre*, I, 113, 115): "It follows no doubt, from the omniscience of God, that every truth, even if it is neither known nor thought of by any other being, is known to Him as the Omniscient, and perpetually present in His understanding. Hence there is not in fact a single truth which is known to no one. But this does not prevent us from speaking of truths-in-themselves as truths in the notion whereof it is in nowise presupposed that they must be thought

by some one. For, though to be thought is not included in the notion of such truths, it may still follow from a different ground, *i.e.*, from the omniscience of God, that they must at least be known by God, if by no one else. . . . A thing is not true because God knows it to be true; on the contrary God knows it to be true because it is so. Thus, *e.g.*, God does not exist because God thinks that He exists; it is because there is a God that this God thinks of Himself as existing. Similarly God is not almighty, wise, holy, etc., because He conceives Himself as such; *e converso* He thinks Himself almighty, etc., because He really is so."

With Plato, then, an *εἶδος* or *ἰδέα* or Form is always the *object* of a thought, that of which some one thinks, not the process of thinking nor any psychological characteristic of that process, not knowledge, but something which is known. Thus the number 2, as we learn from the *Phaedo*, is a Form, but my *ψυχή* is not a Form, and still less is that which takes place in my *ψυχή* when I think about the number 2 a Form; 2 and my thinking about 2 are as distinct as my (dead) grandfather and my present thinking about him. The view which is here suggested only to be dismissed differs in holding that 2 *is* the same thing as my thinking about 2, or at least is so connected with my thinking about 2 that a proposition about 2 is only true when I, or some other thinker, happen to be thinking about 2, and *because* some one is thinking about 2.

This "Idealist" view, which identifies a Form with the *νόημα* or thought of the Form, can perhaps be fairly expressed in modern phraseology as follows. (I do not know if any writer puts the point exactly in this way, but readers of modern works on the "theory of knowledge" will, I believe, admit that my statement of it is an impartial expression of a widely disseminated doctrine.)

The universe is throughout made up of a multitude of process-contents (the doctrine called Mentalism by Sidgwick). Each specific mental process has *its* own specific "content," or

more precisely each cognitive process has its specific "content," that which is thought in it, and these contents are, of course, propositions. No two processes have precisely the same "content," or, at any rate, the "content" is never the same if the "processes" differ in any way beyond occurring at different points of absolute time or in different minds. On the other side the specific content only exists—the special proposition is only true—as an "aspect" of the corresponding process, and this seems to be the reason why those who hold views of this type always call the propositions which we think "contents." They mean that, *e.g.*, a true proposition about the number 2, such as that $2 \times 2 = 4$, is related to my thinking about the number 2 in the same way in which the pleasantness is related to the consciousness of endeavour in an unthwarted conation, and they also usually mean something further. The suggestion is really a double one: (*a*) that identity, difference, causal relation and all the other types of relation recognized by science only *are*, and the propositions which assert them only are *true*, while some one is actually thinking that they are; and (*b*)—and this is an even more important point—that by saying that they *are*, or that the propositions which assert them are *true*, we actually *mean* that some one is thinking that they are. Few really competent thinkers indeed go the whole length of maintaining the position explicitly and consistently, but it ought, I think, to be held by any one who accepts the principles of Kant's critical philosophy or believes with Green that relations are the "work of the mind," and it is hard not to suspect that it is latent in Mr. Bradley's view of the relation of the "that" and the "what" in experience. I know, of course, that the distinction of the "that" and the "what" may be insisted on by a philosopher, as, for instance, by Aristotle, who regards it not as a distinction of "aspects," but as falling entirely within the object of cognition or experience. And it is therefore possible that Mr. Bradley does not really mean what his language

seems to me to imply. But his insistence that there *is* nothing at all in the Universe except "finite centres of experience" tells the other way, as there seems to be no reason for accepting this doctrine except the allegation that to be *means* "to fall within the experience of a finite centre," apart from the assertion that the objects of thought are "aspects" of the process of thinking. (And compare the use made at p. 15 of *Appearance and Reality* of the argument that "primary qualities" depend for their *perception* on an "organ" to show that they are not "real," and the unqualified assertions on p. 144 of that work that "to be real, or even barely to exist, must be to fall within sentience," and that "there is no being or fact outside of that which is commonly called psychical existence.")

As I have said already, I do not see that the general character of the theory is altered by the substitution of God's mind for our minds as the $\psi\upsilon\chi\eta$ in which the process is supposed to go on. For the view in question is not simply that what *is* is always present to God's thought, that God actually thinks all true propositions, but that when you say "this is so"—*e.g.*, when you say that the greater angle in a triangle is subtended by the greater side, or $\sin x$ is a periodic function, or that prussic acid is a poison—you only *mean* that God thinks that these things are so. The word "true" then ceases to have any meaning as applied to God's thinking, since the proposition "what God thinks is true" is reduced to the empty tautology that "what God thinks is what God thinks." The peculiarity of the theory is thus that it treats the philosophical question about the function of universals and relations in the real world as if it were a psychological question about the details of mental processes. The refutation put into the mouth of Parmenides shows the impossibility of Idealism if we mean by Idealism the doctrine that the knowing mind *makes* its objects in the act of knowing them, or that *what* I think is an "aspect" of the process of thinking.

The reasoning proceeds thus. The view that Forms are "thoughts" itself implies, of course, that each thought is a thought *of* something, or *about* something. No thought is a thought of, or about, nothing at all. We sometimes say, to be sure, that we are "thinking of nothing," but that is only another way of saying that we are not thinking at all. You can no more be thinking and yet thinking of nothing than Alice could really meet "Nobody." Of course, you can think about the number 0, but 0 is not nothing but something; it is, *e.g.*, the cardinal number of all the combatants at the battle of Salamis who are now living in London. On the process-content theory itself, then, there can be no process to which there is not a corresponding content. And this content is something determinate, or as Parmenides says, a $\tau\acute{\iota}$ or *somewhat*, different from the other *somewhats* which are the contents of other and different processes. What you think of at all you think of as having a determinate character of its own, not as a featureless blank. (This is the element of truth which is distorted into an absurdity in the Hamiltonian dictum that "to think is to condition.") Thus the "content" of your thought, being a *somewhat*, is something that *is* or has being, a $\nu\acute{o}\eta\mu\alpha$ is always a $\nu\acute{o}\eta\mu\alpha$ of an $\acute{\omicron}\nu$ $\tau\iota$ (132c). This was, of course, as a matter of historical fact the main tenet of Parmenides himself, who declared *what is* to be *one* on the ground that you can only think of $\tau\acute{o}$ $\acute{\epsilon}\acute{o}\nu$; you cannot think of anything else, because anything other than $\tau\acute{o}$ $\acute{\epsilon}\acute{o}\nu$ must be $\mu\grave{\eta}$ $\acute{\epsilon}\acute{o}\nu$ (what has *no* being), and $\mu\grave{\eta}$ $\acute{\epsilon}\acute{o}\nu$ is merely an empty name to which no real thought corresponds. "It is possible for It to be, but it is not possible for nothing to be." As Plato was to show in the *Sophistes* the only way to meet the paradoxes of Eleatic Monism is to deny the premiss that "what is not is just nothing at all," and to insist that "what is not" in one sense "is" in another sense. The proposition that what is thought of is and its contrapositive that what is just nothing at all cannot even be thought of are unassailable. Fully expressed, the proposition that every

thought is a thought of something that is means that, whatever you think of, you think of as *being already* so-and-so, already occupying a definite place and standing in definite relations to other constituents of a world which your thinking of it does not create. You never think of anything as having *no* other further reality, no other determination, beyond the mere fact that you are now thinking about it. There is no such thing as an *ens rationis* or as the mere "being for thought" of which some philosophers talk.

(To indicate more exactly what this means and what it does not mean, let me show how it bears on the familiar question of the "subjectivity of secondary qualities." It does not necessarily follow, from the principle that whatever is perceived or thought has a being which is not merely a "being for thought" or "for perception," that things have colours when no eye is looking at them. The sort of realism implied by what Parmenides has just said would be quite consistent with the view that colours depend for their existence on our eyes, and that the colours of the things in this room no longer exist when it is left empty. What the doctrine denies is that the existence of the colours is dependent on our *minds*. It may or may not be that our eyes help to create the colours; it is false that our minds make them by attending to them. The mere fact that we may attend to details in a scene which we had at first overlooked proves that whether or not, *e.g.*, colours depend for their existence on a physical relation to a retina, they do not depend on a psychical relation to a mind. Whether they exist where there is no eye to see them or not, when seen they are qualities of the objects we see, not qualities of our minds. However we answer the question what becomes of them when there is no eye to see them, it is at least certain that colours are not "subjective," they do not exist "in" the mind, but, in the only sense such a phrase can have, "without the mind.")

It follows then that the "content" of the process in which you think of a Form is always *one* something. It is "*some one*

specific somewhat which *that* thought thinks as present in all the instances," ($\delta \epsilon \pi \iota \pi \alpha \sigma \omega \nu \epsilon \kappa \epsilon \iota \nu \circ \tau \circ \nu \acute{o} \eta \mu \alpha \epsilon \pi \omicron \nu \nu \omicron \epsilon \iota, \mu \iota \alpha \nu \tau \iota \nu \alpha \upsilon \theta \sigma \alpha \nu \iota \delta \acute{\epsilon} \alpha \nu$, where $\epsilon \pi \omicron \nu$ must of course be taken with δ and not with $\nu \acute{o} \eta \mu \alpha$). Parmenides means, to put the point in more modern language, that even on the "Subjectivist" or "psychologising" or "Idealistic" view, there are determinate universal *meanings*, though on this view these meanings are held to be the "other aspect" of the occurrence of specific mental processes. He next adds that, since each of these meanings is a universal, each of them must be what Socrates calls a Form, a point of identity *in* the particulars of existence, a "common nature." Next we combine with the result thus deduced the Socratic premiss that a particular derives its existence entirely from its "participation" in a Form or Forms, in other words that it is just a bundle of universal predicates and relations, and what follows? *I.e.*, what follows if we assert (1) that a thing is just a complex of universals and (2) that universals are "the work of the mind"? Well, it follows that if things are made of universals and relations (which is what Socrates is maintaining) and if further these universals and relations only *are* as "aspects" or characters of mental states, then *either* everything is made of mental states and all things think ($\pi \acute{\alpha} \nu \tau \alpha \nu \omicron \epsilon \iota \nu$), *or else* that there are "unthinking thoughts" ($\eta \nu \omicron \eta \mu \alpha \tau \alpha \delta \nu \tau \alpha \acute{\alpha} \nu \omicron \eta \tau \alpha \epsilon \iota \nu \alpha \iota$). Some good scholars have rendered the phrase "unthought thoughts," but I submit that this is impossible Greek at least for Plato. The only place in good Attic Greek where $\acute{\alpha} \nu \omicron \eta \tau \omicron \varsigma$ means anything like "not-thought" is *Phaedo* 80b, where the soul is said to be $\nu \omicron \eta \tau \acute{o} \nu$, "apprehended by thought," but the body $\acute{\alpha} \nu \omicron \eta \tau \omicron \nu$ —*i.e.* apprehended not by thought but by sense-perception, and there, as Professor Burnet remarks in his edition of the dialogue, Plato is making a pun; $\acute{\alpha} \nu \omicron \eta \tau \omicron \nu$ gets an otherwise impossible meaning from the antithesis with $\nu \omicron \eta \tau \acute{o} \nu$. The regular meaning of the word in ordinary classical Attic is "silly," and this is enough to show that its literal sense was felt to be "unthinking.")

The alternatives, then, are these: either all things whatever—including steam-engines as Mr. Bradley once observed *à propos* of Mill's version of Idealism—are mental processes, *or* there are thoughts which are *not* mental processes. The first alternative is transparently absurd; the second contradicts the very doctrine from which it has been deduced, which was that for every "content" there is a process which is inseparable from it. An umbrella, for example, is not a complex of mental processes, though Mr. Spencer does somewhere talk of performing the feat of making the set of visual states which he calls his umbrella move past the set of visual states he calls the sea and sky. On the other hand "unthinking thoughts," thoughts which are all "content" without any process, are impossible according to Subjectivism itself. The plain conclusion is that the whole attempt to treat the objects of thinking as "aspects" of the process of thinking leads to impossible results (οὐδὲ τοῦτο ἔχει λόγον).

It may be worth while at this point to leave the text of the *Parmenides* and ask whether after all we cannot escape this admission by a way of which Plato has not thought. Certainly the existence of "unthinking thoughts" seems quite impossible even on the premisses of the Mentalist himself. But what of the other alternative that "all things think"? Common sense regards it as absurd, and so do Parmenides and Socrates in our dialogue. Yet many things which common sense is prone to call absurd seem to be true, *e.g.*, in mathematics, and a fair-minded controversialist would probably allow that it is no disproof of a doctrine in theology to say that it looks absurd to untutored common-sense. No one who knew his business would go to the "man in the street" to know whether there are in God three *personae* in one *substantia* or whether the rational soul is derived by generation from one's parents. So there seems to be no intrinsic reason why a metaphysical proposition which sounds paradoxical to the "man in the street" should not be true. And, to say nothing of our

professed Pampsychists, Dr. McTaggart has vigorously maintained that the Universe consists exclusively of souls. So it may be as well to ask whether, in spite of Parmenides, either "mental states" or "souls" may be the only things there are. I do not myself think we can make either assertion. To begin with, on any theory, it could only be of the particular existents in the Universe that we could say that they were all states of mind, or all souls, and the Universe contains much besides its particular existents. Suppose that all particular existents are souls. Then the Universe includes not only these souls but their various attitudes to one another, and no one will say that if *A* and *B* are souls, *A*'s love for *B* is a third soul, and *B*'s recognition of *A*'s love a fourth. We get rid of this particular difficulty if we say not that all particular existents are souls, but that they are mental states. But this view, too, has to face equal difficulties. It involves, of course, the denial that there are such things as minds or selves which have or own the states. This denial, however, though I myself think it philosophically bad, is made by men of eminence, and I will not dispute it here. But what about, *e.g.*, "the hopelessness of *A*'s love of *B*" or "the absurdity of *C*'s opinions about *D*'s philosophy." These, at any rate, can hardly be mental states, but they are as much constituents of the Universe as *A*'s love of *B* or *C*'s opinions about *D* themselves.

Even so, we have only touched the fringes of the real difficulty. Assuming problematically the more moderate position that souls (or, if you prefer it, mental states) are the only particular existents in the Universe, we have to ask, in this society of souls (or mental states), what do the souls (or states) think of and know? Do they only know, can they only think of, the propositions of Psychology? In our own case, we certainly suppose ourselves to know propositions about many particular existents which are not propositions of Psychology, and unless all these propositions without exception are false, there must be particular existents which are not

souls nor yet mental states. Thus I may believe that there is at this moment a round pebble lying on my garden path, or that the pen with which I write these words was made by Messrs. Macniven and Cameron, and these propositions, which assert the existence of the stone and the pen, certainly do not convey psychological information about souls or mental states. Even if stones and pens *have* souls or mental states, it is pretty clear that they *are* not souls or mental states, and that a statement about the weight of the stone or the hardness of the pen is not an assertion about a mental state. Again, we believe the gravitation formula to be a statement which is true, or nearly so, of a certain relation between certain particular existents, but the relation which it expresses is not a relation between minds or states of mind.

Thus if Pampsychism only means that every body *has* a soul or a mental life, it implies, rather than denies, that there are non-mental particular existents. But if it means that all existents *are* minds or mental states, and all the relations between them relations falling within the purview of Psychology, it seems to be proved false by the existence of the other sciences.

If we finally try to maintain the other alternative offered to us by Parmenides in a modified sense, by holding that things may be thoughts without being *my* thoughts in particular, because it is always possible that what I am not actually thinking of is always being actually thought of by other men, or by God, we are really no better off. That things which I have no ground for supposing to be actually thought of by any being but God may yet be real existents seems to be clear from the simple fact that an unknown body may cause perturbations in the behaviour of a known one. Neptune existed, not merely before Adams or Leverrier discovered Neptune, but before any one had observed the perturbations in the periodic motion of Uranus which led to the discovery. It would be gratuitous to assert that because the perturbations existed

before we discovered them there must have been non-human astronomers who did know about them. And though it may be reasonable on other grounds to believe in an omniscient God who, being omniscient, did know about the perturbations and their cause before we suspected either, it is pure nonsense to say that God's knowledge of the existence of Neptune is what we *mean* by the existence of Neptune. For we should then have to say that what Adams and Leverrier discovered was not Neptune but the fact that God knew about Neptune. So, as Bolzano says, "There is a God" does not *mean* that "God thinks that there is a God." We might make this point even clearer by asking what an atheist means when he says "There is no God." He cannot mean (a) "I, A. B., think there is no God," for if he meant that he could prove his proposition by merely proving his sincerity in making it. But no sane man thinks you can prove a proposition to be true by merely proving that you honestly believe it. Nor can he mean (b) "Men in general think there is no God." It is just because he knows they think there is a God that he gives himself the trouble of trying to reason them out of their mistake. And he assuredly does not mean (c) that "God thinks there is no God," for if he means that, what has become of his atheism? Again, even if every proposition which is true is thought by some one, it is certainly not true that whatever is thought by any one is true, and this of itself shows that to be true is not the same thing as to be thought true by some one. And though both the propositions "whatever God thinks is true," and "whatever is true is thought by God" may be true, yet "to be true" cannot *mean* "to be thought true by God," for this would lead at once to a vicious regress. "God is," *e.g.*, would have to *mean* "God thinks He is," and this again would not merely imply but *mean* "God thinks that He thinks that He is," and so on. Hence the real meaning of the statement "God is" would be unknown and unknowable, at least to a human intelligence.

Thus it seems clear that neither to *be* nor to *exist* can mean the same thing as to be thought of, and, as we have no empirical reason for believing that whatever is or exists is also thought of, we cannot deny that there may be any number of existents the existence of which is not known to any mind, unless we can, on independent grounds, assert the existence of at least one omniscient mind. In that case it would be true that whatever is or exists is actually known, not because it is any part of the meaning of being or existence to be known, but, as Bolzano says, because there is an omniscient mind. I need hardly add that in this case it would not in the least follow from the existence of an omniscient mind that all the other existents known by that mind are themselves mental. There is no more reason to think that a mind can only know minds than to suppose that an eye can only see eyes or a nose only smell noses.

It is an interesting question from what quarter the suggestion that Forms may be νοήματα, "thoughts," originally came. It is certainly very unlikely that Plato should have invented this gratuitous false interpretation merely for the sake of refuting it, but it is not at all easy to say with whom the idea originated. Proclus, if he knew, keeps his information to himself, and most modern expositors seem to think they have done their duty when they have made a reference to Berkeley. Grote, however, with his usual scholarship and conscientiousness, really tries to solve the problem. He observes (*Plato and the other Companions of Socrates*, Vol. III, p. 64, n2, Ed. 1885) that Aristotle expressly alludes to the same view at *Topics*, 113, a 25, where he says that εἰ τὰς ἰδέας ἐν ἡμῖν ἔφησεν εἶναι, if your opponent in a dialectical encounter has maintained that the Forms are "in us," i.e., are states of our minds, you might meet him by arguing that his thesis leads to the simultaneous affirmation of contradictories (e.g., as a believer in Forms he must admit *ex hypothesi* that Forms are changeless, but if they are "in us" they change their position as we move about). A few pages farther on (*op. cit.*, p. 74, n 2) Grote connects the thesis that Forms are "thoughts"

in "souls" with the doctrine that *qualities* (the word is, of course, a piece of Aristotelian *Categorieslehre*) are *ψιλαὶ ἔννοιαι*, "mere notions." Simplicius says in a scholium on Aristotle's *Categories* 8, a 31, that this subjectivist view was specially held in Plato's time by the Eretrian school of Menedemus, of whom we really know nothing except that they, like the Megarians, were famous for formal dialectic and that they must have been influenced by Eleaticism, since it is recorded of Menedemus (Diogenes Laertius II, 135) that he refused to recognize negative propositions. On the scanty evidence we possess, Grote's conjecture that Plato's *Refutation of Idealism* is meant to refer to the views of Menedemus seems to me the best that can be made. Antisthenes, as usual, has been suggested as the object of the criticism on the strength of the saying ascribed to him, "I can see a horse, but I never saw horse-ity." This is less likely. Antisthenes was probably dead when the *Parmenides* was written, even if the *mot* in question is authentic, not to add that the point of the alleged saying is not that "horse-ity" is a thought, but that is an empty *name*.

Socrates now offers another suggestion which leads to a second appeal to the impossibility of the "regress." He suggests that the difficulty about the Unity or Plurality of the Form may be escaped by thinking of Forms as *παράδειγματα*, fixed "models" or "types" of which sensible particular existents are "imitations" or "representations" (*ὁμοιώματα*). The precise meaning of the statement that the particular existent "partakes" in the Form will then be that it is a "likeness" or "copy" of the "type," and it is easy to argue that there is no reason why any number of "likenesses" may not be "copies" of one "type," just as any number of impressions may be struck from one die or any number of engravings reproduced after the same original. It must be carefully borne in mind that in this new formulation of the theory the relation between the particular existent and the Form is not merely similarity or resemblance, but the relation of copy to original. The

particular does not merely resemble the Form, but further is derivative from and dependent on it. It is this further relation of derivation which gives Parmenides an opening for a fresh application of the objection to an infinite regress. There are many interesting questions about the relation between the new formulation of Socrates' theory and that which had been given earlier in the dialogue, which I am obliged to pass over as irrelevant to the purpose of this paper. I will merely note that the "imitation" version of the relation of particular to Form was, as we have learned from Aristotle, the Pythagorean one, and apparently older in date than the "participation" formula. Parmenides does not admit that the change in phraseology leads to any improvement in sense. He sets himself to argue (1) that the new version of Socrates' theory is still open to the objection that it leads to the "regress," and (2) that it has the still graver fault of leading by rigid logical consequence to a pure agnosticism. It is only with the first of these criticisms that I am to deal here. The argument of Parmenides is briefly as follows. If a particular existent is a "likeness" of a Form, then not only must it be like that Form, but the Form must be like it, since "being like" is, as we should now say, a symmetrical relation, a relation which is its own converse. But, according to the theory itself, whenever two things are like one another, they are so *because* they "partake of" one and the same Form. Hence, since we have just admitted that particular and Form are like one another (*e.g.*, that the Form of "man" is like Zeno or Socrates), our own theory requires us to hold that the particular and its Form both "partake of" a second Form. That is, employing the explanation just given of what is now supposed to be meant by "participation," the particular and the Form of which it is a copy, must both be copies of a second Form. And in the same way we shall argue that the second Form, the first Form, and the particular existent, are all like one another, and are therefore, on our

own premisses, copies of a third Form, and so on without end. The only way to avoid this "regress" is to deny the proposition "if A is like B , B is always also like A ," and so to make it possible to hold that a particular existent is like a Form and yet the Form not like the particular. As this seems hopelessly paradoxical, it appears that we must say "it cannot be a virtue of likeness that things participate in Forms" (133a).

Now, as to this argument, the alleged "regress" is plainly a vicious one, since the point of the reasoning is that we cannot even state what we really mean when we say, *e.g.*, "Socrates is like the Form of Man," without going through in succession all the terms of an endless series. Also, on his own premisses, the reasoning of Parmenides seems wholly sound, and we are thus driven, as he says, to admit that the puzzle can only be solved if it is possible to hold that a particular existent and a Form are not, on the theory under examination, like one another in the same sense in which two particular existents which are members of the same class are like one another. More precisely, what we need to be able to say is that the relation between Form and particular existent symbolized by calling the second a "likeness" of the first is asymmetrical. Fortunately this position, which Parmenides calls paradoxical, is quite easily defensible. Proclus says truly that the solution of the difficulty is this. The relation of likeness which holds between two copies of the same original *in virtue of the fact that they are copies of the same original* does not hold between copy and original. Thus, though the resemblance between two engravings may justify the belief that they are copies of the same painting, it does not follow that this painting and the engravings are alike in any sense which would justify us in believing that all three are copies of a still older painting. As Proclus puts it, the copy is a copy of its original, but the original is not a copy of the copy. The relation really meant by Socrates when he spoke of particulars as "likenesses" of Forms was not *mere* likeness in some point or other,

a symmetrical relation, but the kind of likeness which there is between an original and a copy, likeness *plus* derivation, and this relation is asymmetrical. Parmenides only proves his point because Socrates is so "young" and unpractised in formal logic that he allows the proposition "sensibles are likenesses (*ὁμοιώματα*) of Forms" to be reworded in the shape "sensibles are like Forms." The fallacy becomes manifest in a simple case. My *carte-de-visite* photograph and my living face may be like one another, but the likeness is not such that it could be argued "This photograph is a likeness of you, *ergo*, by conversion, you are a likeness of it." You can argue that since my reflection in a looking-glass is like me, therefore I am like it, but you cannot argue that since it is the reflection of me, I am the reflection of it. This is how Socrates permits Parmenides to argue when he allows him to substitute for the statement that a sensible thing is a likeness of a Form the very different and much less specific statement that a sensible thing is like a Form.

When it is argued that since two sensibles which are like one another are, *ex hypothesi*, both "copies" of the same Form, therefore a Form and its "copies," being like one another, must all be "copies" of another Form, everything turns on the question whether "like" bears the same meaning throughout the premisses. In point of fact it does not, and this is where the fallacy comes in. No particular existent is like a universal in the same way in which two instances of the same universal are like each other. Thus two green leaves are like one another in the sense that they both have the same colour, but a green leaf and the colour green are not like one another in this sense, since green *has* no colour but *is* a colour, the leaf *is* not a colour but *has* the colour green. Two men are alike in exhibiting the same type of bodily or mental structure, but John Smith and the human organism, or John Smith and "the human mind," are not alike in this sense, since the bodily or mental organization characteristic of men is not itself a body or a mind. To take a case which touches the doctrine of Forms as expounded

by the Platonic Socrates even more closely, two pairs of things, say a pair of gloves and a Parliamentary "pair," are alike in having the same cardinal number; there are two gloves, there are two members of Parliament. But a pair of gloves and the number 2 are not thus alike, for 2 is not a pair. There are two gloves, but not "two units" in 2, since 2 is not two numbers but one number, though Aristotle could not see this and is very wroth with Plato for having said that numbers are not generated by addition.

Let it be carefully noted what these examples show. They do not show that a Form, or universal, and a set of particular existents are not in some way "like" one another. They do not, for instance, show that the Form of man and Socrates may not both be "copies of" or "partake in" some Form. But they do prove that the Form of man and Socrates cannot both be "copies" of the Form of *man*, and it is *this* absurdity which Parmenides was trying to extract from the statements of Socrates. He wanted to show that what Socrates calls *the* Form of man is really not one Form at all, but an endless hierarchy of Forms of man of ascending orders, and in fact, a "well-ordered series of type ω ." Unless he can show this he has not proved that there is a *vicious* "regress" implied in saying that two men are alike because they both "imitate" or embody the same Form. If it is true that the particular man and the Form of man both "imitate" a further Form, which is not the Form of *man*, that is a harmless truth. The regress to which it gives rise is only an endless chain of implications. [But if it were true that there is not *one* Form of man but an endless series of them, you would never be able to say *what* it is of which two particular men are "copies" or embodiments, and *this* is the pretended objection to the theory of Forms.] Just so it creates no difficulty in arithmetic that if there is a finite integer, say 2, there must be another integer which comes next after 2, and another which comes next after that, and so on without end. But all arithmetic would come to an end if instead of one

number 2 there was an infinity of 2's, so that 2 came an infinite number of times after itself.

I hope then that I have made it clear that the vicious regress which follows logically enough from the premisses used by Parmenides does not follow from the assertions of Socrates of which the premisses of Parmenides are an ingenious perversion. So far, the principle of the theory of Forms, that the making of intelligible propositions, and consequently all science, depends on the pervasion of the Universe by universal types of structure and schemes of relation which are neither particular existents nor inventions of the knowing mind remains unshaken by the criticisms we have passed in review. But it is clear from the way in which Socrates receives these criticisms without attempting to answer them, as well as from the express declaration of Parmenides at 135*c* that the failure of Socrates to repel his assaults is due to his lack of practice in dialectic, that Plato means us to understand that though the theory is at bottom sound and rests on a right perception of the character of scientific knowledge, its originators were not possessed of the logical equipment required to formulate it in a way which would ensure it against grave objections. For this purpose the theory required to be reshaped by a master of logic and pure mathematics, and the reshaping was the task of Plato's maturest thought. The form in which the theory finally emerges from his hands was never embodied in his dialogues. In them he remained true to the words he twice wrote to Dionysius II that there would never be a *σύγγραμμα Πλάτωνος*, an exposition of the philosophy of Plato. But its general outlines can be still recovered by careful study of the unsympathetic and often not very intelligent polemic of Aristotle as well as from the indications preserved in the remaining fragments of later Platonists.

X.—SYMPOSIUM: THE NATURE OF THE STATE IN VIEW OF ITS EXTERNAL RELATIONS.

By C. DELISLE BURNS, Hon. BERTRAND RUSSELL, and
G. D. H. COLE.

I. *By* C. DELISLE BURNS.

IN order to understand the nature of the State, it is necessary that we should discuss two issues, one of fact, the other of principle. We should have both description and moral interpretation. Description is only adequate if it is in some sense historical, since the association we call the State is growing, and under this head we may expect to find (1) statements as to what is now being done, and (2) statements as to what was done that is still being done, perhaps including some reference to what is no longer done but was once done. It is impossible in actual life to separate description of fact from interpretation, even of a moral kind, but, for the purpose of our argument here, let us suppose that we can. We should have, then, with respect to interpretation or moral judgment of fact, (1) statements as to the value of what the State does or what is done in behalf of the State, and also (2) statements as to the end or purpose of State action.

I propose to argue that, both as to fact and as to principle, the traditional view of the nature of the State is vitiated because philosophers have failed to recognise the importance of external relations.* The fundamental fact is the existence of many States in contact. The nature of a State is so greatly affected by its external relations that we should not know the

* I mean to refer to what are called "foreign" relations and *not* to the relation of the State to communities other than States (churches, etc.).

object we imagine ourselves to study, and we should estimate its action wrongly, if we did not allow for the influence of *other* States upon the structure and the action of a State. And, having corrected the traditional view, I propose to show that the State is, among other things, at least in part, an association of men with important moral relations to those who do not belong to that association. The first or negative part of my thesis must be unduly shortened, but this must not be supposed to imply that I imagine it to be a complete history, or that I am unaware of the many valuable elements in the traditional theory of politics.

A.

On this understanding we may summarise. The tradition begins with Plato, who provides in his "essence of the State" for a class of warriors. They are, one presumes, not merely to keep "the workers" in order. Both male and female warriors are trained with a view to war, which probably implies the existence of human beings *outside* the State. Thus the structure of the State is acknowledged to be affected by the existence of non-citizens, but no indication is given of the organisation or purposes of these others. They are simply a danger to *the* State. In the *Republic*, therefore, no importance is attached to foreign contacts, but in the *Laws* some acknowledgment is made of the possible debt to foreigners.* Aristotle abruptly announces that it is the nature of the State, or its ideal, to be self-sufficing,† and almost no place is given, in his philosophy of the State, to the influence of one State on the structure of the other. The Greek tradition is, therefore, mistaken, both as to fact and as to principle, even if we allow that πόλις does not mean quite what we mean by "State." In fact, Athens depended on

* *Laws*, 950a, 951a.

† *Pol.*, 1326, l. 27, τοιαύτην δ'ἀναγκαῖον εἶναι τὴν παντοφύρον· τὸ γὰρ πάντα ὑπάρχειν καὶ δεῖσθαι μηδενὸς αὐταρκες.

foreigners for its corn and wine, and it lived by shipping olives and oil; it was essentially a point of contact and not a ringed fence. And as to the moral estimate of values, nearly all that was valuable in Athens arose through foreign contact—its science, its philosophy, and probably also its drama. Even Sparta would not have been organised as it was unless there had been other States. The Mediæval Scholastics frequently lament that there should be many “regna,” which they hardly recognised as what the Greeks or as what we should call States. The Mediæval Empire had practically no external relations. And the evil results of this are perpetuated in the phrase, *Rex est Imperator in regno suo*. Only one writer, so far as I am aware, is clear about inter-State structure, that is Petrus de Bosco (Pierre Dubois).* The Renaissance, however, in its theory of sovereignty, develops some idea of the importance of external relations. Hobbes may stand as a type. Contact is recognised, but its nature is misrepresented, and mistaken judgments of value are given. The State in its external relations is, for Hobbes, in a “state of nature,” which is defined as a state of war.† “In all times Kings and Persons of Sovereign authority, because of their independency, are in continuall jealousies and in the state and posture of gladiators . . . which is the posture of war.”‡ Grotius and the International Lawyers seem to establish a different idea, but the influence of International Law on the philosophical theory of the State has been remarkably small.

Rousseau attempts to break with the tradition, suggesting that the community of custom and law in European States should be made the basis of inter-state political structure.§

* In the *Summaria brevia de abbreviatione guerrarum* and the *De Recuperatione Terre Sancte*.

† Locke, of course, distinguishes the state of nature from that of war; but this makes practically no difference to inter-state conceptions.

‡ *Leviathan*, II, 13.

§ *Extrait sur la paix perpétuelle*, in Vaughan's Edition, I, p. 364.

Kant elaborates a European Confederation, but does not define the State by reference to external contacts. In Hegel the only foreign relations which are regarded as important are those of war, which he calls "a game." And of more modern writers, Bluntschli announces that "only in the universal empire will the true human State be revealed,"* which implies that the State can be defined without reference to external relations. It is well known that the Utilitarian tradition is connected with the old "Liberal" isolation of States: and on the other hand, Mr. Bosanquet says that the State "has no determinate function in a larger community, but is itself the supreme community; the guardian of a whole world, but not a factor within an organised moral world."†

Since Mediæval times, therefore, the philosophical tradition has been wrong as to fact and pernicious as to moral judgment. As to fact, States have been continuously in an amicable contact; but this is given no adequate place in the discussion of their natures: and, as to moral estimate, the more valuable elements in the civilised State have come about through such contact. But the more primitive, and perhaps more obvious, features of external relations have been emphasised, and even these have not been made a ground for showing how the structure of the State is affected by them, for example in military organisation or the obstruction of trade and intellectual progress. This leads to the frank immorality which seems to me to be implied in the idea of *the* State (easily confounded with *a* State) as the supreme community. Thus Mr. Bosanquet says that "it is hard to see how the State can commit theft or murder in the sense in which these are moral offences":‡ but it seems no harder than to see how a trading company or a

* Eng. Trans., p. 32.

† *Philosophical Theory of the State*, p. 325.

‡ *Ibid.*, p. 324. Probably the confusion is due to the words "public will" or "good will." Of course "the good will" cannot will evil. Thus, "If the act was immoral, can the State have willed it?" asks Mr. Bosanquet.

church can do the same. Mr. Bosanquet is either talking of what does not exist, a purely hypothetical community—and, as to such a community, I have no evidence—or he is maintaining that there is no moral responsibility for State action.

The result is strange. The State is discussed not as though "State" were a class-name for many contemporaneous specimens (no philosopher speaks of *a* State); but as though there were or could be only one specimen in existence, at least at one time.* Hence comes the absurd identification of *the* State with the whole of civilised society: hence also the confusion of the two quite distinct problems—(1) the relation of a citizen to a State, and (2) the relation of the human being to society. It may not be the business of political philosophers to consider the relation of a Lutheran to the Lutheran Church or of a professor to a University, but at least they should allow for the existence of social relations fundamentally different from the political, and possibly more important. And further, no adequate consideration is given to the relation of the citizen to States other than his own or the relation of a State to non-citizens. Even if the dangerous metaphor of the body politic, or the still more dangerous formula of the absolute mind, be allowed a place, surely a body can only be understood by reference to surrounding air or even other bodies, and mind can only be understood by "external" contacts. The isolation of the State imagined by the philosophers has made the description of *the* State more and more inapplicable to any single actual specimen; and it has left uncorrected the primitive group-morality which philosophers have either omitted to notice or have perpetuated by bombastic phrases.

The tradition is mistaken both as to fact and as to principle. Perhaps we may suppose that all the greater thinkers have

* I do not mean to imply that even the Hegelian philosophers were unaware of the distinction between a particular and a universal: but I do imply that the neglect to consider the contact between "specimens" leads to the study of a specimen in isolation.

perceived that the nature of the State *is* affected by external relations; but they have never given any precision to the idea. They have never inquired in detail (1) *how* it is affected, and (2) how far the difference in structure of other States affects the structure of a State. The result is that their ideas of the State are hardly at all dependent upon the conception of other States. In their quasi-historical descriptions we find the development "family"; then, family + family = "tribe"; then, tribe + tribe = "State." If the man in the moon were to be instructed by philosophers, and if he had no evidence by which, even unconsciously, to correct their statements, he would not imagine that there was such a fact as State + State. Thus, no one has considered whether "State + State" really is the formula for what, in chemical metaphor, may be called a detonating compound; or whether perhaps it indicates political co-ordination. But in either case it must make an immense difference to the nature of the State: and it can hardly be treated in a footnote or an appendix or a succession of vague and sentimental phrases about humanity at large.

In the matter of principle the philosophical tradition is positively fantastic. It is still confused by the old appeal to "Reasons of State," and it often implies that certain human action done for human ends may be regarded as a purely natural force, without moral responsibility. It is not clearly seen that an organised group of adults, aiming at common purposes, is morally responsible for the action of its agents or for the acts by which the whole group gains. It is not seen that one such group of men and women may attain good at the cost of evil to some other group: and no effort is made to define how far the preservation or maintenance of *a* State may be a good great enough to compensate for the destruction of innumerable other goods or the increase of evils among those who are not members of that particular State. The average man, whether in private life or possessing political power, is confirmed in the limitations of his intellectual vision or moral

sympathy. Outside a State nothing is seen but an imaginary barbarism or the vaguest of shapes, and the effects of State action are not felt to be morally important so long as only non-citizens suffer. The traditional philosophy thus forms one of the greatest obstacles both to seeing facts as they are and to developing our moral judgments of value.

B.

It is perhaps impossible to correct adequately the deficiencies of our tradition; but I shall now proceed to more contentious statements concerning what I imagine to be the true nature of the State as affected by external relations. This positive part of my thesis I do not pretend to be in any way conclusive.

I.

The first necessity is a statement of facts as they are. What is a State in its contact with other States? It is not quite that out of which it was born—the *πόλις*, the *civitas*, the *regnum*, or the “sovereign.” But it bears on it traces of the past. It is both an organisation for the use of force and a means of amicable contact between groups. Historically State organisation is aimed at effective plunder. The distribution of power or rights is useful chiefly for war. Even within its boundaries the organisation is not aimed at a co-ordination of labour for the equal good of the labourers, but at the subjection and effective exploitation of some by others.* But justice and liberty are discovered to have a value of their own, and the State is sometimes maintained for the political good of all its members, who may then be called citizens rather than subjects. A similar process may be observed in religion. Prayer and ritual begin with a view to compelling the gods, and then are discovered to have a psychological effect, which

* I mean that State organisation so obviously does *not* result in co-ordination, that we have to suppose either that it is aimed at this and is badly conceived, or that it is not aimed at co-ordination at all.

some men value for itself. In principle, in so far as there is any conscious moral estimate among the average citizens as to State action, probably most citizens think that *their* good should be attained by the State. It is, in fact, known that this good can usually be attained by external relations of amity and co-operation, but these are not yet valued for their own sake. Externally, State conceptions are still at the "magical" stage. Intercourse is subordinated to effective force. Therefore the justice and liberty which are supposed by the philosophers to be the purpose of all State organisation, are generally regarded as 'useful for effective co-operation of citizens in the prosecution of their group interests ultimately by means of force. It may be said that this force is used for the maintenance of justice and liberty, and that therefore the State may be considered even in this matter as a moral association; that is a different issue, for, whatever the intention, State action must be considered first by reference to its *results*, exactly as we should consider the results of the action of contending individuals, both using private force for the highest ends. It may be hoped that justice and liberty will be attained by "neutralising" forces, but, if history is any guide, it is proved by experience that such ends cannot be attained, *so long as force remains in the hands of the parties to a dispute*. There never yet has been a man or a group of men who, having struggled with an opponent, was able then to consider the issue by reference to moral criteria only, irrespective of victory or defeat. I say, therefore, that, in fact, neglecting intention for the moment, the nature of the State in its external relations is to be obstructive to moral action. Its structure is affected by the existence of other States regarded as "powers," and its action with regard to those others is such as obstructs the decision of moral issues by the use of moral criteria.*

* This has nothing whatever to do with the existence of force: or its excellence as a "sanction" in cases in which the decision has been reached

But this is only one side of the question. There are other important facts in the external relations of a State. There is the normal existence of permanent and world-wide diplomatic and consular activity (or somnolence). This has only existed since the fifteenth century. There are conferences and congresses between States. There are also innumerable treaties, chiefly of a commercial kind, which imply a certain amount of amicable contact based upon mutual trust. And the tendency to this, even as between governments, neglecting citizens for the moment, has much increased since, for example, the Anglo-Portuguese Treaty of the fourteenth century. Political changes, like that towards Parliamentary Government in Russia or Cabinet Government in England, are due to external contact. Democracy and Autocracy both spread because States are in contact. The maintenance of Education or Art is due in most States to foreign influence. And, indeed, no State at present in existence would be anything like what it is but for the continuous amicable contact with other States.

Further, outside the strictly political sphere, trade and intellectual influences have been affecting the relations of State with State. Even the agents of the State (the Governments) have been able to grasp the fact that no State acting alone can control epidemic disease. Agreements are made as to trade regulation owing to the influence of private citizens, and States have even been known to acknowledge the existence of scientific or literary ideas among non-citizens. These and many others of the same kind are facts of which we must take account in considering the nature of the State.

II.

We may now turn to the moral estimate of the facts, both as to the hostility and as to the amicable contact of States. The nature of the State in its external relations is affected by

by moral judgment. The whole value of force *within* the State depends on its not being in the hands of a party to a dispute.

the moral atmosphere obtaining between other associations or communities. In comparatively primitive times it was possible for men of different local dialects to recognise moral relations between them: but this did not affect much the relation of State to State. For then there was only one institution corresponding to our complex State + Church, and that institution seemed to include all with whom one could have moral relations. In later times it was possible for men of different political institutions to regard their inter-relation as fundamentally moral for purposes of credit and exchange. It is not yet possible for any important number of citizens in any State to regard their relations to non-citizens as fundamentally moral in the larger economic issue of development or exploitation. No State allows the "open door," at least for its dependencies, to *contractors* (as opposed to traders) who are not its own citizens. Morally we should have to allow (1) that the relation of the State to economic interests is not clear, (2) that the majority of men do not really understand any purpose for action except wealth, and (3) that independence is the ultimate intention of those who quite mistakenly seek it in exclusiveness.

It is, however, abundantly clear that a State assists in developing what is morally good, chiefly by amicable contact with other States. Isolation breeds incompetence always, and sometimes decadence. Athens was better than Sparta because of its openness to intercourse. South American States have suffered from being geographically isolated. The criterion, I confess, is the whole complex life lived under this or that political institution, and I could not persuade anyone who did not value art or science or religion that the results of intercourse were better than the results of isolation. But as individuals gain individuality through varied contact, so we may suppose groups of individuals gain "character" by contact with other groups. And I take it for granted that the political organisation does not exist for its own sake (*i.e.*, for mere ease of government).

Again, it would seem that it is the nature of the State in its external relations to be politically a medium through which the interests of its citizens in contact with non-citizens may be maintained and developed. That may seem to be implied even in the mistaken attempt to maintain interest by force. But I mean to imply more. It seems that it is the nature of the State actively to support or encourage the amicable contact of citizens with non-citizens, in so far as the State may be imagined to aim at justice and liberty, and that not only within its own frontiers.

And, again, the State is fundamentally affected by whatever happens in any and every other State. The conception of neutrality in war is probably obsolete, for no war can be now fought within a ringed fence, and *every* State is concerned in every dispute between *any* States. Morally, therefore, the State must be regarded as a part and not a whole, and the organisation of law and government must be valued morally not only with respect to its effect upon citizens, but also with respect to its effect on non-citizens. For example, we must allow in the case of British Law and Government that it is quasi-democratic in the British Isles and the Self-governing Colonies, and is not in any sense democratic in the Dependencies. This fact makes a great difference to the effect of British administration upon non-citizens, for to many of these the administration seems to aim at the exploitation of "subject" races. And we ourselves cannot estimate its value without reference to such external effects.

Finally, there is an indication of the existence of an embryonic inter-state (political) structure in (1) the permanent or quasi-permanent diplomatic representation of States, and in (2) the increase of common action by many States for the control of disease or the management of postal and telegraphic communication. But if such facts and the new moral attitude they imply are not merely transitory, the nature of the State is to be a part or element in a *political* complex which is world-

wide. That is to say, the whole of which the State is a part is not merely a sentimental unity of all mankind. Indeed, I think that the structure of that whole can be at present discovered, and an understanding of its nature will probably make a fundamental difference to our knowledge of what the State is and our judgment as to what it should do.

II. *By the Hon. BERTRAND RUSSELL.*

I AGREE so very largely with what Mr. Burns has said that I shall be unable to avoid a certain amount of repetition.

It has been the practice of most philosophers, in writing on political theory, to treat the State as though its essential purpose were the attainment of some universal ethical good. This view of human affairs is unscientific, since man, like the animals, is a bundle of impulses and passions. Practical politicians do not fall into the error of the philosophers, except in their public speeches, in which, by a well-established convention, they commonly make appeal to the loftiest morality, although in private conversation and in their own thoughts they treat politics simply as a conflict of forces.

The speculations of philosophers on politics are still dominated imaginatively by the conception of the philosopher king. The background of the philosopher's explicit thought is something like this: "If I, who am a man wholly devoted to the public good, were given supreme power, I should pursue such and such ends. The men who compose the Government, being largely my personal friends, my pupils, or the pupils of my predecessors, are as much devoted to the public good as I am, and must be pursuing the same ends as I should pursue if I were dictator. These ends, therefore, constitute the essence of the State. It is true that there are other countries where men have not had the benefit of the tradition that has made us virtuous; in such countries the State is not realizing its

essence; it is *a* State, not *the* State. *The* State is the one of which I am a citizen." All this background is unconscious, and does not emerge into consciousness except through some conflict or loss of harmony which at the same time destroys it.

I have no wish to deny that men often aim at something which they believe to be "the public good." But their conception of what constitutes the public good is a product of their own impulses and passions, a subjective thing, much influenced by prejudice and class-interest and accidents of geography or education. Ethical notions are very seldom a cause, but almost always an effect, a means of claiming universal legislative authority for our own preferences, not, as we fondly imagine, the actual ground of those preferences.

Any scientific treatment of political institutions must first endeavour to ascertain the impulses and passions for which they afford a vehicle. We can then form a critical judgment upon them, that is to say, we can judge whether they form a vehicle for our own impulses and passions, and, if not, whether some other vehicle, less repugnant to ourselves and more adequate to the needs of the ordinary man, could be found for the impulses and passions out of which they have arisen.

The passions embodied in the State are twofold: those which lead men to exert authority, and those which lead men to submit to it. The State is a different thing to those who may be broadly called the "governing classes" from what it is to the ordinary citizen. In relation to the State, the chief passion actuating the governing classes is the passion for dominion, and the chief passion actuating the ordinary citizen is the passion for security. In every State, except an absolute monarchy, the question whether a man belongs to the governing classes or to the subject classes is a matter of degree; to some extent he gives orders and to some extent he obeys them. But the degree is very different for different men, and their feelings in regard to the State differ accordingly. A man who belongs socially to the class that gives orders may regard the

State from their point of view, even if he himself has no part in the government. This may be seen in the case of those high-placed women who oppose woman's suffrage. Those who conceive that the State has essentially good purposes belong obviously, in their feelings, to the governing classes.

The State has always had, and has still, to face two opposite forces tending in the direction of anarchy : the desire of the governing classes for unlimited dominion, and the desire of the subject classes for unlimited freedom. It is pleasant to give orders, but unpleasant to obey them ; therefore the governors have wished to override law in the exercise of power, and the subjects have wished to rebel against law where it thwarted their free choice. The acts prompted by these impulses are called respectively tyranny and rebellion. But rebellion is more dangerous to the State than tyranny, since an absolute monarchy gives free rein to tyranny, but no State can give free rein to rebellion.

The essence of the State is the organization of force. Instead of each citizen exercising what force he can in accordance with his own initiative, the force of the citizens is united, and exerted collectively according to the orders of the Government. The advantage of this plan, from the point of view of the ordinary citizen, is that, since the force of the State is usually irresistible internally, there is no need for its actual use ; the mere knowledge that it could be used is enough to protect quiet people from the violence of neighbours who might otherwise be turbulent. This motive led to the alliance of King and people against the feudal nobility, by which the power of the State was established throughout Western Europe at the end of the Middle Ages.

The desire for security which led to the creation of the modern State should have gone on to produce a world State, since it is only in a world State that the use of force, independently of law, can be prevented. It is something of a historical accident that this has not happened. Rome nearly

succeeded, and in later times various powers have made attempts with more or less success to establish world dominion. But all the motives which made it difficult in the Middle Ages for the State to acquire power over turbulent barons have existed in greater force to prevent any kind of international control over turbulent States. It is worth while to consider what these motives are.

In the first place in a large aggregation like a modern State most men have little acquaintance with foreigners, and such contact as they have is chiefly by way of conflict, whether in trade or in diplomatic rivalry. Moreover, foreigners differ much from ourselves. They have different language, different gestures, different manners, often a different religion. For all these reasons they do not arouse the same instinctive sympathy that we feel for a compatriot. It is easy for us to wish to "confound their politics, and frustrate their knavish tricks." A compatriot belonging to the opposite party may also be guilty of "knavish tricks," but he remains intelligible and natural in a way in which the foreigner is not, except to those who have lived abroad. It is such feelings as these that make the nation an emotional unity and an easy object for that kind of group feeling which is called patriotism. Though patriotism has arisen through such motives, it is enormously reinforced by fear and pride. In order to be safe against foreign aggression armed forces are necessary. The armed forces of others cause us fear, and our own armed forces inspire us with pride. We must be at all times ready to repel attack, and the fact that others are supposed willing to attack us makes us regard them as wicked. We must defend ourselves, and many people are always assuring us that the best defence is attack; and so the armed forces of a nation, which have been recommended as necessary to security, become a source of insecurity to other nations. Every nation arms in self-defence, but in doing so acquires the means of aggression.

The motive of security which has led subjects to acquiesce in

the power of the State leads them also to acquiesce in the increase of its armed forces. But every increase in the armed forces of a State increases insecurity in other States. No doubt if the desire for security stood alone people would long ago have found their way out of this tragic circle by the creation of a world State. But what we have called the governing classes are always instinctively actuated in foreign affairs, as in home politics, by a motive quite opposite to that of security, namely, the pride of dominion. What each nation is chiefly aware of in other nations is its governing classes, since they are in the public eye, and their doings are reported by newspapers. The common working population of a foreign country does not figure in most people's imaginative picture. On the other hand, in one's own country, if one is a plain citizen, one is much more conscious of other plain citizens than of the Government. In this way it comes about quite naturally that people who have little acquaintance with foreign countries at first hand—and they are the enormous majority—imagine foreign human nature to be quite different from that of their compatriots.

This reciprocal distortion of view prevents that mutual confidence which would be an indispensable preliminary to co-operation in a world State, and renders those whose chief desire is security impotent tools in the hands of those who desire dominion, or who love the excitement of combat. If a world State is ever to be created, it will be necessary that these mutual suspicions should first be dissipated. This can only happen during a long period of peace, and therefore the hope which some have indulged that an international authority would be created as an outcome of the present war seems to me quite chimerical. The evils of the war are plain to all, but the cause of those evils will not be recognized until the passions generated by the war have subsided.

It is common to speak of duty to the State in terms which seem to me excessive, whether they are viewed from the subjective point of view of the individual conscience or from

the objective point of view of the welfare of mankind. This excessive estimation is promoted by the habit of speaking of *the* State, as though there were no other State. It is not easy to see what abstract reason can be alleged for serving one State rather than another. It is never supposed, for example, that a citizen of a neutral State ought to take part in a war, however important to mankind the issues may be thought to be. Nor is it thought by most that a man does wrong in fighting for his own country, even if his country's cause is bad. We do not blame individual Germans for obeying the orders of their Government, except when those orders go beyond ordinary warfare. It is this universal acquiescence in the authority of each partial State over its own citizens that makes it so hard to find a way by which each State could yield up a portion of its sovereignty to some international authority.

There is another point of view from which subservience to the State has always been found impossible by some of the men whom posterity has agreed to be the best of their age. The State is sometimes spoken of as though it were an actual entity, something remote and godlike, vastly superior to its citizens and deserving of a quasi-adoration which none of them deserve. But this is, of course, a mere superstition. The orders given by the State are in fact given by actual men, the purposes of the State are the purposes of certain people in office. There is nothing superhuman about these people. In most ages and in most countries they are composed of very common clay. If they have imaginative vision and breadth of purpose it is a rare stroke of luck; it is not a common occurrence or one which we have any right to expect. For this reason it must often happen that the purposes of the State are such as cannot commend themselves to men who have more humanity or more insight than most of their contemporaries. Such men, if they have courage, may easily find themselves forced to resist the State; any theory which would make it their duty to submit in spite of adverse individual judgment would take away some-

thing of human dignity and independence ; it would savour of oriental despotism, and if successful it would prevent the best men from growing to their full moral stature. The State embodies the wisdom of average men, and its institutions are clogged with the superstitions of the past. Those in whom any new wisdom is growing up, in whose minds the seed of some future good is germinating, cannot but find themselves in greater or less degree out of harmony with established authority. For this reason, if for no other, the duty of obedience to the State cannot be made absolute.

We may say, broadly speaking, that there are three great evils in existing States :—

- (1) Internal Injustice ;
- (2) The fact of not being world-wide ;
- (3) Interference with Liberty.

(1) Internal injustice necessarily arises through the fact that the citizens of a State do not all have an equal voice in government. This evil is, to a large extent, irremediable. In what is called a democratic State, officials and elected representatives necessarily have more power than the ordinary voter, and their interest in many points is different from that of those who elect or appoint them. Whatever the constitution of a State, this evil can only be met by checks upon its power, and checks upon its power cannot exist effectively unless the rights of individuals or subordinate organizations are fully recognized. This evil has, however, no essential connexion with the external relations of a State. I shall therefore not dwell on it further.

(2) The fact that States are not world-wide prevents them from achieving in their external relations the chief good which they aim at achieving internally, namely, the substitution of law for force in the relations between individuals or groups ; so long as each State claims absolute sovereignty, the idea of International Law must remain without force. International

Law, like Municipal Law, is nothing without a sanction, and there can be no sanction without an international authority. It is not necessary that the international authority should interfere in any way with the internal affairs of nations. It is only necessary that it should regulate the relations between them. It cannot do this unless it possesses sufficient armed force to be obviously capable of enforcing its decisions upon any recalcitrant nation, and this in turn is impossible until nations abandon the practice of huge national armies. The prospect, therefore, is remote. Nevertheless, it is clear that what is said in praise of the present partial State could only be true as applied to a world State. The main purposes of States in their external relations are the exploitation of what are called undeveloped countries, and the successful assertion of claims by the use of force, or the threat of force, against other States. These are precisely the purposes of highwaymen, and the sooner men recognize that they ought to refuse obedience to a State when it is pursuing such objects, the better. But, owing to mutual fear, no movement having this object can hope to succeed unless it is international, and if it is international it will necessarily have to face the combined hostility of all the governments of the world.

(3) The interference with liberty which is practised by all States leads to somewhat different considerations. Although the area subject to the authority which sets armed forces in motion cannot be large enough until it is world-wide, that of the authority which decides ordinary matters of civil government may very easily be too large, and is probably already too large in most great States. It is a commonplace that the city State of Ancient Greece, or Mediæval Italy, had certain advantages, which have now been lost, in the preservation of individual initiative, and in the opportunity which it gave to all vigorous citizens to participate in politics. In the modern world, even in a democracy, the share of the individual citizen in deciding the policy of his

State is so infinitesimal, that he is apt to feel a sense of impotence, and in many matters in which there ought to be a certain measure of freedom, the machinery of officialdom is so vast that only a stupendous agitation can effect even the tiniest reform. Imagine the position of an elementary schoolmaster, who believes, perhaps quite rightly, that he can give the children a better education than he is allowed to do by the schedule. However good his ideas may be, there is no hope of his being able to put them into practice. The result is that he ceases to think intelligently about his work and becomes a mere mechanical drudge. Those who decide what the education is to be have probably very little knowledge of elementary schools and no knowledge of children. In a complex State matters are decided by officials in an office entirely remote from those who are immediately affected by their decision. In this way knowledge and power are divorced, and a full development of the individual becomes impossible.

A return to the city State is of course impossible, but a great deal might be done by giving more autonomy to professions, trades, and interests. This, however, will not be done unless subordinate groups show a willingness to resist the State when it interferes with internal affairs: so long as they retain an undue respect for the State they will remain powerless against it.

We may now sum up what has been said. The State is a combination of men for common defence and attack, produced in the main by two motives: desire for security on the part of subjects, and desire for power on the part of rulers. Internal defence and attack are conducted generally according to rules laid down in advance, and constituting the Criminal Law. In spite of the fact that the Criminal Law has always been inclined to condemn many things which do not deserve to be condemned, including some of the most beneficent actions that a man can perform, the internal security which we owe to the State has on the whole been a gain to civilization. But in

order to win this security men have set up a worship of the State which has led to a sacrifice of individual liberty and initiative far greater than any that the motive of security would have warranted. And in external affairs, every increase in the strength of the State has been a new disaster to mankind. For in external affairs the motive of dominion has triumphed over the motive of security by the wholly illusory argument that only the means of dominion would ensure security. There is only one road to the security which armies and navies are nominally intended to secure, and that is the establishment of a world State which shall alone possess armed forces. Some day the peoples of the world will realize this, and will force the various governments to forego their absolute sovereignty. But no group of men ever voluntarily renounces power, and it is not to be supposed that the national governments will yield without a struggle. It will be a regrettable thing if philosophers help them in the struggle by that glorification of the national State to which they have been too prone in recent decades.

III. *By* G. D. H. COLE.

WHEN, last year, I read to the Aristotelian Society a paper on "Conflicting Social Obligations," I explicitly stated that I should omit all reference to the problem of external relations. I abstracted a State from its context of surrounding States, and within a ring-fence which I recognised as purely imaginary I confronted the conflict of obligations which might arise. I am glad of the opportunity of supplementing what I then wrote by dealing with the problem of external relations; for it is essential that this should be taken into account if the real nature of the State is to be fully appreciated. I was concerned in my last paper with the relative values and obligations which belong to States and to other forms of social grouping, and my object was to define, in relation to other internal obligations,

the obligation which the citizens are under to their State. Now, I have to deal with the even more difficult question of the external relations of States, including not only the relations of States one to another, but also the relation of a State to its citizens in dealing with external questions, and its relation to citizens of other States and to external non-governmental groups.

Let me begin by endorsing what Mr. Burns has said in criticism of philosophical theories of the State, past and present. Such theories, as far as I know them, have philosophised about "*the* State," instead of about "States" in the plural and as related one to another. But there is no philosophical theory of *the* State, any more than there is a philosophical theory of Mr. Smith. There is a philosophical theory of "States," which we may call political theory, just as there is a philosophical theory of men, which we may call "ethics." Mr. Burns, however, while pointing out the defects in existing theories, does not show their cause. Yet surely the main cause is clear. Political theory has been Cartesian in method. It has sought to define the nature of States by an analysis of the consciousness of a typical State. "What," it has inquired, "is the nexus in bodies politic?"; and it has answered, if not precisely, *Cogito, ergo sum*, at least, "*Protego, ergo obligo*." It has regarded the State as an individual, and has sought to define its nature by means of a kind of collective introspection. And this introspective philosophy, just as it vitiates the study of the individual consciousness, is fatal to political theory, because it shuts up the State in the circle of its own ideas, and prevents philosophers from confronting the problem of the relation of State to State.

I do not desire to traverse again the ground covered in Mr. Burns' paper, further than to say that I agree with his general conclusion, that the State is bound by moral considerations just as the individual is bound, and that the only difference is that a sanction has been established for the judgment of individuals' offences, whereas no sanction, save the force of

the parties, exists in the case of States. I accept his arguments on this point, and proceed at once to those arguments which I desire to put forward on my own behalf.

The Kantian, and indeed nearly all modern, ethical theory rests on the assumption that the individual is an end in himself. Wherein precisely being an end in oneself consists may be difficult to determine; but the consequences of the doctrine, however imperfectly understood, are clear. The Kantian theory of ethics was an application to the individual of Rousseau's theory of the State. The work of subsequent theorists, from Hegel to Green and Bosanquet, has been largely a reference back of Kantian doctrine from ethics to politics. Rousseau constructed a theory of the State based on the general will: Kant applied that theory to the individual, weaving in with it the doctrine that the individual is an end in himself: subsequent philosophers, building their theory of the State on a Kantian foundation, have decreed that the State is a body politic possessing a general will and being an end in itself. Clearly the definition is of capital importance when we come to consider States in their external relations.

If States are ends in themselves, as individuals are such, then clearly an individual, as a member of a State, is absorbed in his State, and the rightness of his actions is relative to the good of the State of which he forms a part. Equally clearly, the world, on this showing, is only a unit as a federation of States, as each State is only an association of individuals. The problem, then, is simply that of greater and less, greater and less being alike in some sense individuals. Within the State, the individual; within the world, States: thus the world and its differentiations will present themselves to one who accepts this doctrine. The world-community, the States composing it, and the individuals composing those States—all will be alike regarded as ends in themselves which are at the same time either parts of a greater whole, or that whole of which lesser "ends in themselves" are parts. Mr. Bosanquet, or any

Prusso-phil philosopher, might regard this as a beautiful instance of "identity in difference." Such a theory would make world-relations purely relations between States, in which the individual citizen or the functional association as such would have no part.

This theory is intolerable. That differences between States are important, and that it is desirable to find some means of settling them without recourse to arms, no sane person is likely to deny. But that such differences are the only vital differences that extend beyond the boundaries of a single State is a preposterous doctrine, and one that theory can sustain only by flying full in the face of facts. It is of no use to treat of the external relations of States without regard to the mutual relations of individuals and groups extending beyond the boundaries of a single State.

In short, the world is more complicated than the Chinese boxes with which children play. Relations between citizens of different States may be as important as relations between citizens of the same State. Men are bound together not by political ties, or even by national ties, alone, but also by non-political bonds which are no less compelling in the obligations they impose. Religion, industry, the arts, morality—all furnish instances of inter-State grouping, and all give rise to obligations which may conflict with loyalty to a State.

No State, therefore, can afford in its external relations, any more than in its domestic administration, to ignore types of organisation which form no part of the State machine. No State can use, in its external any more than in its internal relations, the whole organisable force of its citizens without regard to other loyalties that have a claim upon them. At least, no State can do this with impunity, or, in doing it, remain true to the principle upon which all States alike rest. The individual citizen of Great Britain is not simply 1/45,000,000 of the British State: he is a man, and owes loyalty to many other associations besides his State.

When this is recognised, can States any longer be regarded as "ends in themselves"? I do not desire to recur more than I need to the old controversy about mechanism, organism, and personality; but I must point out the results of the triumph of organic or personal theories of the nature of the State. Ridden to death, these theories have resulted in a wholesale transference of ethical theory to the political sphere, so that States have been endowed by philosophers with all the attributes of individuals. The superiority of these theories to the old mechanistic conceptions I do not question; but the extreme application of them by modern political writers goes far beyond the truth. We can surely agree that States are more than mechanisms without crediting them at once with individuality in the ordinary sense of the word. Above all, we can accept much of the organic and personal views without being bound to hold that States are ends in themselves. If we must use analogies for the purposes of political thought, we can avoid pushing our analogies till they become absurd.

Individuality, in the fullest sense, and the right to be regarded as an "end," it will be agreed, must go together. There have been two opposite tendencies among philosophers who have sought to track down this individual "end." They have sought the individual either in inclusiveness or in exclusiveness—either in self-dependence or in self-assertion. For them, either the Universe has been the individual, because the Universe alone is complete, or a personal consciousness has been the individual, because it is the smallest unit capable of coherent activity. Philosophers, as Mr. Burns has pointed out, have often been quite content to regard *the State* as an ultimate unit, although it satisfies neither the inclusive nor the exclusive demand. The result of Mr. Burns' criticism is to destroy the absoluteness of the State, and thereby to destroy its claim to full individuality.

But this, it may be said, applies no less to the single citizen than to the State. He, too, is one among many, and by himself

is nothing. He is *φύσει πολιτικός*, let us say, and we can fill in the rest. But the fact remains that a man is an individual in quite a different sense from that in which the State can be called an individual. Men have conflicting loyalties; but it is the whole man who is a party to such conflicts. States also may have conflicting loyalties; but far more important to States are the conflicting and international loyalties of the individuals who compose them. The problem of American intervention in the present war is not so much the problem of the external relations of the United States to Germany and the Allies as the problem of the relation of many individual American citizens to Germany and the United Kingdom, or to various associations extending into those countries. These latter conflicts have no analogy in the case of the individual. For him the problem of conflicting obligations, however difficult, is single in type: for States it has two widely differing aspects.

In fact, the citizen is an individual in a far deeper sense than the State. If this is granted, we may go on to admit that, in a less complete sense, the State does partake of individuality in that it has a common will and does act as a unit. But its claim to be regarded as an end in itself disappears; it is not reduced to mechanism, but it is less than personal. It does not exhaust either the individuality or the organisable individuality of its citizens. It is not greater than its citizens, and it cannot claim to use them as mere pawns in its own game. Its sovereignty is relative and not absolute; and this relativity exists for it both in its relations with its members and in its relations with other States.

This denial that the State is an end in itself carries with it great consequences. It is in no sense a denial of the "reality" of the State or of the obligations which it imposes upon the individual. It is a limitation, and not an abrogation, of State authority; it does nothing to undermine the loyalty which the nationalist may feel to his State, as, to some extent, the embodiment of his nationality, or that which the *homo economicus*

may feel to the guardian of property and security. But it sets men free to assign limits to the duties which they owe to their State, and to follow the path of those duties which they owe to other associations or to their own consciences.

Moreover, this view has its consequences when we come to consider the problem of international relations. There has been controversy, though not among philosophers, between advocates of "world-federation" and advocates of the "World-State." Where political theory has touched upon this problem, it has been federationist in tendency, and has faced its problem in terms of the relations between given States. No doubt, the possible modification of State areas has been taken into account; but, in the main, the State has been regarded as something fixed or *given*. Sovereignty has remained the property of States, even if they have been conceived as delegating a part of it to a world authority. Whoever has been deputed to exercise the authority, it has been the States' sovereignty that is to be exercised.

Abandonment of the idea of State absolutism involves also abandonment of the view that sovereignty is an absolute possession of States. It leads rather to the view that the location of sovereignty is a matter for choice, and it opens the road for the "World-State," if the "World-State" should seem practically desirable. The question ceases to be one of principle, and becomes one of expediency. If the "World-State" can provide for the satisfaction of national aspirations, there is no longer any philosophical barrier in its way.

The federal idea of world-relations is a logical outcome of State absolutism, whereas the alternative theory of State limitation leaves the way open for either type of world organisation. If the State is only relative, it can be preserved, destroyed, or modified without disturbance of the principles on which political theory rests.

The relativity of the State, we have seen, is complex in its nature. States are relative one to another, and relative to the

individuals composing them. Furthermore, they are relative to all kinds of organisations other than States and to individuals belonging to other States. They are relative to non-governmental organisations in three different ways, according as these groups fall wholly within the area of a particular State, or partly within it, or wholly outside it. The State in which we live has relations with, and is relative to, the Church of England, which falls within its boundaries, the Catholic Church, which falls partly within them and partly without, and the American Cotton Growers' Association, which falls wholly outside. The problem of its external action is not simply that of adjusting its relations with other States, but also its relations with all kinds of bodies and individuals which are not under its control. It cannot simplify its problem into a mere relation between like and like; for it is continually confronted by problems arising out of the relations between disparates.

World-politics, then, must not be conceived simply in terms of the relation between State and State. Practical politicians too often make this mistake, and they have at least the excuse that philosophy has given them no better guidance. In matters internal, the doctrine of State absolutism has produced results sufficiently disastrous; in "foreign affairs," its effects have been even worse.

Internally, absolutism leads to a wholly false conception of the relations between a State and the various functional associations to which its members adhere. Externally, it leads to a type of patriotism which seeks to submerge all international loyalties beneath the crested wave of State service. Whether this patriotism finds expression, as now, in the hostility of State to State, or, as some day it will, in co-operation between States, its attitude to non-governmental forms of association remains unchanged. It is the State, in the last resort, that is credited with the right to demand absolute obedience of its subjects. If this rule is varied in any way, the variation is treated as a matter of expediency—a concession, not of right,

but of grace. An actual instance will serve to illustrate this point. The Socialist citizen of any State owes a double duty—he owes, of course, many more, but we may for the moment isolate these two—to the State of which he is a citizen, and to the national and international working-class movement. These two loyalties need not conflict, but they may do so. They are not inconsistent and irreconcilable; but they may, in particular cases, be very difficult to reconcile. Anti-Socialists have been very ready to accuse the German Social-Democracy of all manner of wickedness, because it gave its support to Germany in the present war; but such an accusation is utterly at variance with the view of patriotism which those who make it themselves profess. They seem to believe in State absolutism modified only by concessions to expediency; but, if State absolutism is right, then, having made protest, the individual or the association is bound to conform to that which the State decides.

Regarding the question from a different standpoint, we can see that the German Social Democrats were faced with a conflict of loyalties. They owed a loyalty to the State, in so far as it was the guardian and the repository of their national aspirations; they owed a duty also, not so much to the idea of internationalism, as to the actual fact of the international working-class movement.

If it is admitted that two loyalties both exist and are valid, and that they may on occasion conflict, it is clear that neither loyalty can be absolute. The problem then becomes largely that of the relative values of the institutions to which the loyalties are owed. The State cannot claim to prevail in this conflict merely by virtue of its own nature; it can only claim to prevail if it satisfies the condition of being relatively more "valuable" than the rival claimant; and, in judging of relative value, the judge will necessarily take into account the effect on both claimants of an adverse or favourable decision.

In short, it is not necessarily any worse to be unpatriotic, in

the sense of being unwilling to side with the State in its external relations, than it is to be false to a Church or a Trade Union or an idea. The conflict of loyalties cannot be resolved on general principles, or in any other way than by the examination of each individual issue as it arises. General principles contribute to the solution, but they do not furnish it.

That the claim of the State on the services of its citizens is great I do not deny; that it is different in kind from other claims on service I do deny. The idea of a difference in kind still persists among those who realise that the absolutist theory is unworkable in its completeness. Conscious of this, they seek, not to modify their theory, but to mitigate its operation. They point out that the bark of State theory is inevitably worse than the bite of State practice; that the existence of non-governmental functional associations serves actually as a restriction on the power of the State—in fact, that the State, absolute in theory, is not really absolute in practice. For the safeguarding of the individual's right to serve other masters than the State they rely on "checks and balances," the operation of which they are prepared to illustrate plentifully from the history of all States.

This will not do. It amounts to saying, "My theory is unworkable in practice, and therefore it is a thoroughly satisfactory theory." If we are to have a general theory at all, for Heaven's sake let us have one that squares with the known facts. If the obligations of an individual to non-governmental associations are worthy of being taken into account in practice, theory too is bound to find a place for them. The very lip-service paid by advocates of State absolutism to the need for "checks and balances" is a proof that the theory of State absolutism is wrong.

Whatever view we may take of the limitations of State obligations and State activity, the problem of inter-State relations remains. It is still *a* problem, although it is not *the* problem of world-organisation. Mr. Burns concentrates his

argument on the need for co-operation between States, on the incompleteness of any State taken in isolation, and on the prospects of an authority transcending that of the State. Mr. Russell supplies the reverse of this argument, in showing how co-operation between States is difficult to secure, and how the motive of security is perverted so that, instead of making for co-operation, it makes for antagonism. Mr. Russell further shows how this perversion is helped by the theory of an absolute State. Any weakening of this view, therefore, would mean a proportionate increase in the power of non-governmental forces, especially those of international character, to exert their influence on the side of co-operation. While the State continues to be regarded as absolute, the highest efforts in the direction of co-operation seem destined to be dominated by the theory of the Balance of Power, which is based not on co-operation, but on antagonism.

There is a further point, also raised indirectly by Mr. Russell, which is worthy of discussion. I shall begin here by stating definitely as an axiom that the citizens' obligation to serve the State is dependent upon the extent to which the State fulfils the will of the citizens. By this I mean their actual, conscious will, and not any "real" will with which philosophers may choose to endow them. Roughly speaking, the claim of the State upon its citizens depends upon the extent to which the State is democratic. There are necessary reservations; but this is broadly true. But this doctrine requires to be applied, not simply to the State as a general and inclusive organisation, but also to the various functions which the State discharges. If one department of State activity is more out of touch or harmony with the passions and desires of the citizens than another, the obligation which it imposes is thereby lessened. Loyalty and obligation to the whole must, of course, be taken into account; the extent to which the State in all its functions taken together is regarded as possessing value may modify the individual's refusal to recognise obligation to the State in a

particular aspect which he disapproves or regards as undemocratic; but, this being taken into the reckoning, the obligation to the State is less where the State is less democratic.*

It will hardly be denied that States are, in their external relations, even less democratic than in their internal administration. This seems to me to lessen the obligation which they impose. I recognise that this view is an entire inversion of ordinary thought, which assumes that the first duty of every citizen is to act on the side of his State in its external relations. This view rests, no doubt, on the idea that, unless the State can rely absolutely on the service of the citizens in its relations with other States, its very existence may be endangered because its power to resist external aggression will be lessened. The absoluteness of the obligation on the individual is defended by arguing that the State must at all costs be preserved. In urging that the State is not an end in itself, but only a more or less valuable means to the good life, I have sought to strike at the theoretical foundation of this view.

War furnishes the most obvious illustration of the difficulty I am stating. Let us suppose that a State has entered wrongfully into a war. What is to be the attitude of those citizens who perceive that their State has done wrong? "My country, right or wrong," will be the cry of those who believe in the complete absolutism of the State. But, among those who agree that the obligation imposed by the State is relative and conditional, two arguments will be in vogue. "Our country is wrong," they will say, "and that must incline us not to support it"; but in many cases they will be entitled to say also, "Our country is in danger, and that must incline us to rally to its aid." Neither consideration will carry the day alone; the decision will be made on a complex consideration of both factors.

* I am here leaving out of account the conflict between an obligation to the State and an obligation to a non-governmental body, and dealing only with the abstract obligation imposed by the State on its members.

In making such a consideration, the citizen will at the same time take into account the extent to which the decisions of the State on the point in question can fairly be regarded as his decisions and those of his fellow-citizens. The absence of democracy in foreign politics implies also an absence of responsibility on the part of the citizen. If, then, he goes to the support of his State, it will be either because of an overwhelming conviction that his State is in the right or because he believes it to be in grave danger. If this argument is sound, the State in which foreign affairs are undemocratically managed has no right to go beyond a voluntary system. *At the most*, compulsion is only democratic if the State which applies it is democratic in that respect in which compulsion is applied.

If this condition is fulfilled, can we say that compulsion is justified? Here enters again the problem of the relation between an obligation imposed by the State and other obligations. Even if a State is truly democratic in its foreign relations, it only follows that it has the right to impose an obligation on the citizen *within its own sphere*. The loyalty of the citizen to other types of association, which may be international in character, is in no way different in kind from his loyalty to the State, and cannot be overridden by it. This, however, is not to say that the democratic State has no right to use compulsion, but that it has that right only in so far as it respects those obligations which the individual owes to other forms of association. This is the real purpose and meaning of a "conscience clause," such as several Acts of Parliament contain. Provided that such safeguards are real and inclusive, the fact that a State is democratic does confer upon it, to the extent of its democracy, the right to compel. But as soon as, either in theory or in practice, it omits such safeguards, the obligation upon the individual disappears or diminishes in proportion to the omission.

The external action of the State, then, is circumscribed by these internal limitations. The citizens, in one way or another,

are in all cases the instruments of State action ; but they are not mere instruments. They have rights of their own, and they owe allegiance to other associations besides the State. Quite apart from any narrowing of the State's demands which expediency may dictate, State claims are subject to a limitation of right.

It may be urged that the general effect of this paper is the enthronement of the individual judgment and the vindication of anarchy. The giving of bad names is no answer to argument. If the individual is rightly regarded as an end in himself, must we not, in the last resort, fall back upon the judgment of the individual? This is not to take away the right of the State to impose obligations; it is to limit that right to the imposing of obligations that are not inconsistent with other obligations no less binding in character. Thus, even if the State has not the right to compel a man to perform a particular act which conflicts with some other obligation, it may still have the right to demand of him some equivalent service to which no such objection can be raised. The right of the democratic State is limited, not as to the amount of service which it can require, but as to the kind of service.

Lastly, I come to a point which has lurked behind all I have said. As Mr. Burns pointed out, and as I pointed out in my previous paper, the State is not identical with Society, or with the Nation or Community. Last year, in his reply to my paper, Mr. Bosanquet seemed still to insist upon an identification of the State and Society ; or, if he drew a distinction, it was not relevant to the present issue, any more than Hegel's distinction would be relevant. The effect of such an identification is evident. If "the State" is taken as including all the particular functional associations to which its citizens adhere, then clearly the obligation which they owe to the State includes the obligations which they owe to these associations, and the internal conflict of obligations disappears. But what happens when some of the associations concerned are international or

cosmopolitan in character? For a cosmopolitan obligation cannot be absorbed by a national State or by any number of such States. The failure to seize this point is one of the results of talking about "*the* State," instead of about "States" in the plural; and, as soon as this point is realised, the distinction between States as governmental associations on the one hand, and non-governmental forms of association on the other, becomes the starting-point of political theory.

Assuming this distinction between the State as the governmental machine and Society as the complex of institutions including both governmental and non-governmental associations, what is the relation of these two to that which stands behind even Society—the Nation or Community? By "Nation," I mean nothing institutional, but that consciousness of unity which is the binding force in all true States and Societies. How far, then, are States the expressions and the representatives of national spirit? On this clearly the strength of the obligation they impose must largely depend.

It is commonly assumed in political argument that States are Nations, or at least their representatives. I do not deny that States play a larger part in representing Nations than any other type of institution. But functional bodies and private citizens are no less truly representative of their Nation, even if they are so in a less degree. Nations cannot themselves be fully represented; they can be, at the most, only partially represented, and this partiality of necessity includes elements of misrepresentation. Not States, but Societies, complexes of national institutions, are therefore the nearest approaches to representation of Nations.

This being so, the external relations of States must be distinguished from those of Nations. To identify the two would be to ignore many non-governmental forms of international relations, in art, religion, science, and, we may add, economics. The claim of the State to be absolute does not hold good in the domain of external relations any more than it holds good at home.

Let me now sum up the points I have tried to make. In the first place, the introspective method in political theory has all the same disadvantages as in the theory of knowledge. It leads straight to political Solipsism, which is otherwise known as Imperialism. Secondly, the theory that States are ends in themselves is a false application to politics of Kantian ethical theory. Thirdly, the threefold problem of the individual, the State, and the political world, cannot be conceived simply in terms of a dual relation of greater and less. Individual citizens are not absorbed in their States, but have other loyalties no less binding than their loyalty to their States. Fourthly, States are not different in kind from other forms of human association; and, as these other forms may be international or cosmopolitan as well as national, they cannot be absorbed in national States, or, indeed, in any form of territorial organisation. Fifthly, it is not enough to point out that there are of necessity practical limitations to State absolutism: the theory of State absolutism is wrong, and must be abandoned. Sixthly, the obligation which the State can impose on the citizen is limited both by the duties which the citizen owes to other associations and to himself, and by the democratic or undemocratic character of the State, not only generally, but in relation to the particular obligation which it seeks to impose. Lastly, it is implicit in all that has gone before that the State is not identical with the Nation, and that the external relations of States cannot be identified with those of Nations. States are only, at the most, partial embodiments of the national consciousness. The problem of conflicting social obligations appears no less in the external relations of States than in their purely domestic relations with individuals and associations within their borders.

XI.—THE NATURE OF JUDGMENT.

By E. H. STRANGE.

THERE seems to be no reason why the problem of the nature of judgment should not be settled to the satisfaction of every competent person by direct analysis. So far as one can gather from theories of the nature of judgment hitherto suggested, the problem is simple as compared with many problems of the natural and mathematical sciences which have been satisfactorily solved, or which we may reasonably hope to solve. This is so, notwithstanding the fact that most theories of the nature of judgment have erred on the side of simplicity: most attempts at physical problems have done the same. I do not, of course, intend to suggest that the problem of judgment is like the elementary problems of mechanics and physics, in which the student has already at his command conceptions adequate to their solution—that is, where the student is merely tackling some particular instance or application of a problem the correct analysis of which has already been done for him. I mean problems in which at least one further element is involved, or in which what is involved is more complex than has hitherto been supposed, as shown by the fact that we cannot give an adequate account of the facts with which we have to deal in terms of those physical conceptions which are at our command, or which have hitherto been supposed to cover all the facts. It is probably the case that the simple elements which it is the business of the philosopher to exhibit as involved in the

problems which he proposes for solution are harder to come by than the elements involved in physical and mathematical problems. But it seems equally probable that this is so, not on account of the intrinsic difficulty of philosophical problems, since, to judge from what has been offered us hitherto, they are not so complicated as problems of the physical sciences on which something like general agreement has been attained, but on account of the lack of a suitable propædæutic. So, then, although we may admit that philosophical problems demand a higher degree of insight and more strenuous powers of analysis, there seems no reason to suppose that they are so different from physical and mathematical problems that a radically different method of procedure is necessary for their solution, nor that philosophical acumen is different in kind from scientific acumen. No doubt the number of those who think it worth while to make any serious effort to grapple with the problems of philosophy is insignificant as compared with those engaged in scientific research, but it seems clear that a training in the natural sciences is the best propædæutic for the serious study of philosophy, and that we may hope for progress in philosophy when we succeed in persuading those who have some acquaintance with physical and mathematical problems to attempt the solution of philosophical problems.

It is because of the difficulty of the task of apprehending clearly the elements involved in the fact of judgment that Mr. Russell and, following him, Professor Stout have prefixed to their recent treatments of the nature of judgment and truth a list of the conditions which a sound theory of judgment must satisfy. Now, such a list will be two things. First, it will be of the nature of a preliminary analysis before getting on to a more precise and careful analysis. For example, Professor Stout's insistence that the correspondence which constitutes truth must be a correspondence between actual fact and something which is before the judging mind, just as the non-correspondence which constitutes falsity must be or involve

non-correspondence between actual fact and something which in belief is before the mind, is simply an appreciation at the outset, as against Mr. Russell, of one very obvious element involved in judgment—namely, that in every judgment the person judging must have before him as object what it is that he is believing. In the second place, such a list of conditions which must be fulfilled by a sound theory of judgment has, at the same time, reference to what one regards as the errors and omissions contained in accounts of judgment offered by others, or to errors likely to be committed by others; and as such the list might be multiplied indefinitely, since there seems to be no end to the confusions possible in philosophical discussion. But it is clear that we can only convict another of error or confusion on the topic of the nature of judgment by direct reference to the fact of judgment. In the case of the fact of judgment there seems no room for the postulation of anything beyond what can be immediately discerned, so that we should be able to clear up the problem of the nature of judgment in a way in which it is probably not possible to settle the problem of determinism or indeterminism, for example (although even here it should be possible to arrive at agreement as to exactly what is involved in asking whether determinism is a fact or not). But this is in turn a statement which can only be confirmed by a direct appeal to the fact of judgment. I propose, therefore, in this paper to attempt first such a direct analysis of judgment, and then to go on from this analysis to consider certain difficulties which seem to be involved in other accounts of judgment.

I should say at the outset that the account of judgment which I shall try to give is one which I cannot suppose to be entirely new to members of this Society. So far as I am aware it has not been set forth in print by any other writer, but I expect it must have occurred to many who are acquainted with the work of Meinong, or who have followed with interest Mr. Russell's theory of the nature of truth and

the criticisms of that theory made by Professor Stout and others. There is, I take it, a brief reference to this account of judgment in the chapter on "Truth and Falsehood," p. 194, in Russell's *Problems of Philosophy*.

The elements involved in judgment seem to be these: (1) There is the act of judgment on the part of the judging mind, a psychical fact occurring as part of some one's mental history. (2) There are the objects on which the judging mind passes judgment. In simple forms of judgment these facts are given immediately, and such judgments seem obviously to be the basis of all knowledge of what exists. For example, I may judge that the fire at which I am sitting is burning brightly. Here we have my act of judging or my belief, on the one hand, the psychical factor, and on the other, the physical facts immediately before me on which I pass judgment. It seems, therefore, that judgment is not co-extensive with cognition in general, either in the sense that all cognition is judgment, or in the sense that judgment is an element necessarily involved in cognition. So far as the evidence of introspection goes, it is, I think, clear that direct acquaintance with the immediately given constantly occurs without the judgment of what is so given. To be directly aware of the existence of the facts which I call the fire and its brightness is a different thing from *asserting that* the fire is bright, even if, as constantly happens, one only make this assertion for one's own benefit. And even if the evidence of introspection showed that the human mind never refrained from judging what is immediately given, there seems no reason why other minds should not directly apprehend what is given without judging the given. What seems to be impossible is that we should have judgment without a basis of direct experience of the immediately given. In more advanced types of judgment the facts concerning which we judge are not thus given immediately in experience, but are judged to exist by previously formed judgment. For example, a realist may judge that real

physical objects (by which he means objects permanently existing and incapable of direct presentation to the mind) have relations which correspond to the relations directly observed in the immediately given. Or I may judge that the statue of Liberty in New York Harbour must often be a welcome object to the traveller to America. Here the facts which are judged are clearly not immediately apprehended, unless the conception of the philosopher as the spectator of all time and all existence is true in a sense which would make foreign travel an unnecessarily expensive proceeding.

But now, having gone so far, it seems obvious that we must go farther. If the facts judged are not immediately apprehended by the mind in the act of judgment, it seems difficult to understand how they can be objects of the mind at all. Either the statue of Liberty and New York Harbour are my objects or they are not, and between the two there seems to be no third possibility. But yet it is equally clear that the statue of Liberty is involved in my judgment that it is a welcome object to the traveller to America, as well as in our present discussion of the nature of judgments other than those of the most rudimentary type, since we have taken a judgment about the statue of Liberty as an illustration of such judgments; and it is clearly illegitimate to deny to the former judgment what we ourselves claim in the series of judgments which constitute our present discussion. The term "object of the judgment" must therefore be ambiguous. We have, on the one hand, what is presented to the eye when one is entering New York Harbour. It is about this very appearance that I now make a judgment, otherwise my judgment could neither represent direct experience of New York Harbour on the part of myself or of others, nor be confirmed by such experience. At the same time I now judge that that visual appearance which I am judging is not present to my mind. So then we have, on the other hand, what is present to the mind in virtue of the fact that, although I am now some

thousands of miles beyond the range of direct presentation of the statue of Liberty to my mind, I am yet making judgments about it. We seem, then, driven (3) to recognise something over and above the act of judgment—the psychical fact involved, and the physical facts concerning which we judge. It is such a third thing which is the object of our minds when we set out to judge about the statue of Liberty, and it is such a third thing (only more complex than the *tertium quid* with which we start) which is our object when we have completed our judgment.

Now if there is such a third thing involved in judgment we ought to be able to detect it directly in the simplest form of judgment, quite apart from any difficulty into which we get ourselves when we consider less elementary forms of judgment. If we cannot detect such a *tertium quid* in the case of simple judgments of perception, we are making a radical difference between such judgments and judgments like that about the statue of Liberty; and we ought seriously to consider whether our not mentioning a *tertium quid* in the case of judgments of perception was not implicitly to deny their claims to be considered judgments at all. If we failed to detect this third element in the simplest type of judgment, and only returned to look for it when we got into difficulties on trying to do without it in the case of judgments about what is not directly presented that is only due to our defective powers of analysis. Moreover, although we may reasonably come to the conclusion from the consideration of judgments about what is not directly presented that some *tertium quid* is necessarily involved, yet we may easily be led into error as to the exact nature of this *tertium quid* if we consider only one type of judgment, and that a more complex type. It seems wise, therefore, to return to the simple judgment of perception with which we started. In my judgment that the fire is burning brightly is there a third element involved besides the psychical fact of my act of judgment and the facts immediately apprehended about which I judge?

We seem clearly able to detect such an element—namely, that the fire is burning brightly, that which is judged concerning the immediately apprehended objects. And that the fire is now burning brightly is not the fire nor its brightness nor bright nor burning, just as in legal judgment we have, over and above the prisoner judged and the belief of the jurymen and the judge, that which is judged of the prisoner in the belief of the judge and jury—namely, that the prisoner is not guilty. And that the prisoner is not guilty is not the prisoner nor his innocence nor innocent. Let us follow Meinong and call this third element involved in judgment the Objective. It is the Objective which is really the object of the judgment as such, since we can apprehend the facts immediately given without judging as to their nature.

In other words, the really important distinction involved in the fact of judgment is not that between the object with which, in order to judge, one begins, whatever may be the psychical process by means of which one is enabled to begin with it, and the object with which, in virtue of having judged, one winds up (the distinction Meinong marks by means of the terms "Objekt" and "Objektiv," and his pupil, Dr. Ernst Mally, by means of the terms "Bestimmungsgegenstand" and "Eigenschaftsgegenstand"). This is not the important distinction, because in simple judgments of perception all the facts to which the judgment refers can be given immediately to the mind by means of the senses; and in judgments about what is not given immediately to the mind, the object with which one starts is already the distinctive object of a judgment, that is to say, an Objective. In such cases, therefore, we have at the finish merely a more complex Objective than we had at the start, or an Objective relating to a different aspect of the same complex of facts as that with which we began. We have not, therefore, anything like the gulf which separates what is given immediately and is existent and in time, and that which is necessarily timeless and non-existent, the apprehension of

which involves more than the proper use of the sense organs.

Now it is the Objective to which we can most appropriately attribute truth and falsity. If I say "It looks like rain," it is clear that the weather conditions are neither true nor false. And my immediate acquaintance with the weather conditions given is likewise neither true or false. Either I am directly aware of what is given or I am not, but in neither case can I be in error, although I may be fortunate or unfortunate to be directly apprehending some particular object. On the other hand, it is, of course, the case that we apply the predicates true and false to my act of judging that it looks like rain. But my act of judging is called true or false not on account of its own intrinsic character as an act of the mind, but because it is a belief in what is true or false of the facts about which I make a judgment, *i.e.*, in an Objective. A false belief is a belief in a false Objective, whereas a true belief is a belief in a true Objective. This is borne out when we consider what takes place when one verifies a judgment, either on the part of another or of oneself, by an appeal to the facts about which the judgment is made. In such a case, instead of beginning with the facts and going on to an Objective which shall be true of the facts, the order is reversed and we proceed from the Objective, if we have understood the medium in which the judgment is expressed, to the facts which are to lead us to accept or reject the Objective. Now in such a case, as when, *e.g.*, the story of an accused person is investigated, one may quite well believe that the person whose statements one is investigating does not really believe in these statements. But the question what is going on in his mind is entirely irrelevant to the verification of his story. An act of judgment can no more be verified, even by the person making the judgment, than the greenness of grass. What can be verified is that A is lying, but that A is lying is neither A nor his lying.

It will not, of course, do to identify the Objective with the image. It may be the case that when I make a judgment such as that about the statue of Liberty and New York Harbour, a visual or some other kind of image crosses my mind. On many occasions with most of us it would be the auditory or articulatory image which thus appears; the judgment is about the statue of Liberty in the harbour of the town called "New York." It seems impossible to make a judgment, when the facts judged are not immediately given, without the occurrence of an image. But it is clear that, so far as judgment is concerned, the function of the image is not to replace the facts immediately apprehended, although, so far as one merely imagines and does not judge, one may respond to an image as one responds to what is immediately given in sensation. When I make a judgment about the statue of Liberty I am not judging my visual or auditory or articulatory image of the statue or of the traveller or America. The image is what makes it possible for me to judge, not that concerning which I judge, nor what I judge about the facts on which I pass judgment.

It is now possible to deal with certain difficulties which beset alternative theories of the nature of judgment. The difficulties of the "idealist" doctrine that every predicate asserted in judgment is an aspect of the mental process of judging, or that judgment consists in the divorce of an ideal content from its existence in the mind and its application to reality, have been insisted upon often enough. As Professor Taylor has recently pointed out, it follows from this view of judgment that either everything is made up of mental states and that all things think, or that there are unthinking thoughts. When one recoils from the subjectivism of this view there are two courses which seem open. (1) One may stoutly assert that since the mind cannot make truth, and the whole notion of judgment as being an ideal construction is simply metaphor, it follows that even when I make a judgment about the statue of Liberty, we

have the mind's direct detection of the nature of an object or of a relation between objects. All knowledge must be a direct relation of the mind to an object, otherwise it could not be knowledge at all. The mind is either aware of an object or it is not, and there the matter ends. In this way no radical difference is made between judgment and direct acquaintance with sense-data, but the former is reduced to the latter. Or (2) it may be said that the error of the "idealist" theory of judgment lies in asserting that a predicate is part of the content of a psychological idea. This theory involves a vicious infinite, in that one must already have concepts at one's command in order to know what part of the content of one's psychological idea is to be divorced from its existence. All that we have to do, then, is to insist on the independent character of predicates or concepts. When I make a simple judgment like "This fire is burning brightly," I am not applying part of the content of my idea to the fire, nor applying to reality or any other third thing part of the content of my idea of the fire and of brightness. What I am asserting is not anything which concerns my mental process, but a relation between concepts. A concept neither exists nor forms part of anything that exists. On the contrary it is presupposed in the thought of anything that exists. In the case of a judgment like that about the statue of Liberty we have merely the clearest example of the fact that knowledge does consist in the appreciation of relations between concepts, and what we have called direct acquaintance with the immediately given is also of this nature, since concepts are the only objects of knowledge. Further, the truth or falsity of a judgment cannot consist in a relation to an existent or to anything outside the judgment, since to know that a thing exists and to know that a proposition has a relation to an existent are themselves to know a proposition, that is, a relation between concepts, and the truth of these propositions must be independent. And since this is so, there seems to be no reason why we should not regard the truth of other judgments as

independent also. We must, then, regard the existent world as constituted of concepts only. On this view we have resolved direct acquaintance with what is immediately presented into judgment.

(1) Now, if we adopt the former of these two positions, we are confronted with the difficulty of non-existent and impossible objects and of false judgments about existent things. If a person believes that witches are to be feared, then it follows at once that there are witches, otherwise the person in question could not have them and their powers for mischief as his objects. Again one may believe correctly that the round square is contradictory. It follows, therefore, that there is a round square, otherwise it seems that a sound judgment is equivalent to thinking of nothing, which in turn seems like not thinking at all. And finally it will not do to say that every judgment of the form "A is B" means the detection of the fact of A's being B, because the whole point of saying that the judgment is false is that there is no such fact as A's being B, even if there is such a thing as A. This account of judgment might stand a better chance of being accepted if all our judgments were true, although even in that case questions might very easily be raised which would show it to be false. For example it would still remain impossible to contemplate directly more than a small area of the physical world at a time, since this depends on our sense organs. So that a philosopher might happen to notice the difference between direct acquaintance with what is given and judgment about what is not at the moment of judgment so given, even though as a matter of fact judgments were never disproved by direct appeal to the facts. He might, therefore, succeed in convincing his contemporaries that judgment is not quite so simple a fact as it looks at first sight. But in view of the notorious fact that some judgments are false, the unsoundness of this account of judgment is sufficiently obvious. And this seems sufficient answer to the objection that the Objective simply repeats the objects to which

it refers. If I judge that A is B, then according to the doctrine of Objectives there is, over and above A and its being B, that A is B. But, it is often felt, that A is B is only A's being B over again. The fact of erroneous judgments about A makes it quite evident that there is something else involved than A and its being B, on the one hand, and our mental process, on the other, even in cases where the judgment that A is B is true; otherwise we shall have to deny that a false judgment is a judgment at all.

On the other hand, the doctrine of Objectives seems to many people to be a prize example of a solution *ad hoc*. No doubt, it is said, your account of judgment gets you over the difficulty of non-existent and impossible objects and of false judgments, but this is only because you have postulated just what will you get over this difficulty. Since the facts to which the judgment relates can only be what they are, and the psychical act of belief is indubitable whether the judgment be true or false, you have invented an order of being which is just to be the medium of truth and falsity. Now if this objection means that Objectives have been postulated in view of the difficulty of any theory of judgment which works merely in terms of the object of the mind, on the one hand, and the psychical act of judgment on the other, the necessity of recognising some further complication would remain, even though we could not specify anything further as to the exact nature of this further complication. As a matter of fact, the necessity of drawing upon a *tertium quid* can be shown, as we have seen, from the fact that judgment has a wider range than the senses. But the real answer to objections of this sort is to say, as I have already insisted, that the question whether there are Objectives and the question as to the exact nature of Objectives are questions which can only be decided by direct appeal to the fact of judgment.

Of course, when confronted with the difficulty of non-existent and impossible objects and the fact of error, one may

try to save one's face by saying that witches and the round square and A's being B, when really A is not B, are *in some sense*, or *in the mind*, or *in the judgment*. But when one is pressed, whatever contortions one may go through, one has to admit either that these qualifications mean nothing at all, or that a theory of judgment which can only be stated in terms of such qualifications involves a vicious infinite, since what is only *in the mind* or *in the judgment* means what is judged to be but really is not. And in any case such qualifications will not serve to extricate us from the difficulties in view of which they were invented. Now this is an extremely awkward consequence of a theory of judgment, the beauty of which is its simplicity, so that one may reasonably doubt whether it is not precisely its simplicity which is its weakness.

(2) If, on the other hand, we adopt the second position, and say that the world is made up of concepts, and that all knowledge is judgment, it seems impossible to give any account of that which distinguishes true judgments, as such, from those which are false. Some Objectives are true, and others are false, just as some peas are green and others are yellow, and there the matter ends. This seems to be in conflict with two facts far more certain than any theory of the nature of judgment. (i) We cannot tell in many cases by mere inspection of a judgment whether it is true or false, as we can tell whether a pea is green or yellow. This seems certainly the case with judgments relating to the existent. In other words, truth and falsity are not intrinsic characters of such judgments, as green and yellow are intrinsic characters of peas. Nevertheless (ii) such judgments can be verified or shown to be false, *i.e.*, we can show in detail that they are true, or point out in detail wherein they are false and substitute true judgments for them. Since this is so it must be possible to state wherein in general truth and falsity consist, by reference to something beyond the judgment, so that a theory which expressly denies that what is meant by the truth and falsity of a judgment refers to

anything but the judgment is false. Of course, this view of judgment would insist that what we have called the verification of a judgment by direct appeal to the facts to which the judgment relates is itself nothing but to make the judgment in question. But it seems certainly to demand explanation why under certain circumstances it is possible to make a judgment and know beyond doubt that it is true, and under other circumstances to make exactly the same judgment and be quite unable to know that it is true, if the truth of the judgment is an intrinsic character of it. It would be more plausible to argue that we don't know what it is we believe until we know beyond doubt that what we believe is true.

However, the argument that the truth of a judgment is independent can be shown to be untrue for other reasons. The argument runs something like this: If you make the truth of a judgment consist in a relation to an existent, then to know that a judgment is true is to know that it has this relation to an existent. But this in turn means to know a proposition; and even if we go a step further, and make the truth of this proposition consist in a relation to something else, then to know that the proposition has this relation to the thing in question is again to know a proposition. Beyond propositions, then, we cannot go, and truth and falsehood can only attach to judgments independently of anything else. In this argument there seems to be more than one confusion. The fact that, on the theory which denies that truth attaches to Objectives independently of anything else, we can only know that an Objective is true by knowing that it has a certain relation to something else, is no reason why the truth of an Objective should not consist in such a relation. The judgment that the truth of a given judgment consists in a relation to an existent is again about something not itself—namely, the truth of the first judgment and an existent, and it is on the real nature of this something else that the truth of this second judgment in turn depends. If, therefore, the judgment that the truth of the given judgment consists

in a relation to an existent itself refers to something other than itself, there seems to be no reason why we should not admit that the truth of the first judgment also involves such a reference. It is, of course, true that I can only know *that* a judgment is true by knowing another judgment about it, but that does not mean that the truth of the given judgment can only be defined by reference to itself, so that there is no vicious indefinite regress involved.

Moreover, it seems possible to know directly the truth of a judgment, without judging *that* it is true, just as I can be directly aware of the relation between the table at which I am writing and the fire without asserting *that* the latter is to the right of the former. In this connection we must not let ourselves be misled by the fact of language. Since we cannot convey information one to another by passing round an eye like the Grææ, to understand any communication from another is to apprehend an Objective. It follows, therefore, that although we can be directly aware of the nature of what is immediately given and of its existence, and of relations between parts of what is immediately given, yet when we inform another what it is that is given, or that something is given, what the other person apprehends as the result of understanding the judgment, as opposed to making use of his sense organs for himself, is an Objective about the facts directly apprehended. *E.g.*, if I tell you what is now immediately given to me, what you gather is *that* there is a fire to the right of my table. So it is in our present discussion of the whole question of judgment and Objectives. When I say that the relation between an Objective and the facts to which it relates may be apprehended directly, what you gather on understanding my words (whether you believe them or not) is *that* there are Objectives, *that* there are things to which Objectives correspond, and *that* the relation between the latter and the former can be directly apprehended. What you gather from my very statement that the truth of an Objective depends on a relation to something not an Objective

is itself an Objective ; but that does not mean that there are not other things than Objectives to which Objectives refer, and upon which the truth of Objectives depends. The sounds or the written characters or the gestures by means of which information is conveyed are at any rate existent things.

The essential nature of Objectives, then, is to refer to something other than themselves. This does not mean that the reference of an Objective to that to which it refers is another Objective or another judgment. Although, of course, instead of understanding the judgment simply, or of apprehending directly the relation of an Objective to the facts to which it refers, I can judge *that* an Objective has this reference to something outside it, just as I can judge not only that A is B, but that it is true that A is B.

Judgment is sometimes represented as the arrangement by the mind of its objects. (Much the same notion seems to be contained in the statement that a judgment is an ideal construction.) When the arrangement of the objects in the judgment corresponds with the actual arrangement of these objects the judgment is true, when this is not the case it is false. Now in discussing this view there are certain considerations we must bear in mind at the outset. There is one arrangement of the objects of the mind which the judging mind as such certainly does not arrange. When I put on my boots or poke the fire I arrange the objects of my mind, but to do these things is not judgment. Nor, on the other hand, will any judgment serve in lieu of the actual manipulation on the part of my fingers. The whole point of saying that the judgment that I have put on my boots is true, is that what it announces is so whether I judge it to be so or not. The objects of my judgment, in other words, are arranged among themselves, and it is such arrangements which it is the business of the mind in judgment to assert. The mind may with its objects form a wider arrangement. But such an arrangement is not necessarily judgment, for I may perceive my boots without

making a judgment about them. Also there is often an arrangement between my mind and other things when they are not my objects at all, for there is certainly a connection between my mind and my body, and I am not always aware of objects behind my back, for example. It is clear, then, that the arrangement between the objects of the mind is relevant to the question of the nature of judgment and truth, but that there is another arrangement which is likewise involved. This present view of judgment itself distinguishes between the objects as arranged in the judgment and the actual arrangement of the objects. Now we have already noticed the ambiguity of the term "object of judgment," an ambiguity we cleared up by the theory of the Objective as opposed to the facts to which the Objective refers, and with which, if the judgment is true, it corresponds. It is, therefore, scarcely necessary to insist that my boots, the object of the judging mind in one sense, are not in my mind, but in this house, which in turn is in this city, and so on. Nor need we stay to consider specially the vicious infinite involved in a theory of judgment which can only be stated in terms of a distinction between the objects in the judgment and these objects in their actual order, since this is only due to the failure to clear up the ambiguity to which we have drawn attention. What it is worth while to point out is that the correspondence between two "arrangements" on which the truth of a judgment turns cannot be a correspondence between two factual arrangements, like the arrangements of two clocks. If two clocks correspond exactly that is an interesting fact which I might assert of them, but it is not a judgment. If there were an exact correspondence between the mental process of some mind and the physiological processes going on in its body, for example, that would be interesting because it would support the theory of psycho-physical parallelism. But we should not necessarily have judgment, for such a mind might be capable only of sentience. When we ask what it is the

correspondence of which with a given factual complex A B yields a true judgment, the only answer is that it is that A is B, an Objective. And it is an arrangement, a complex, which corresponds to the given factual arrangement in the sense that it can be split up into a number of simpler Objectives, each of which is true of part of the factual complex.

XII.—A CONTROVERSY ON IMPORT.

By J. BROUGH.

Two years ago I was permitted to read to this Society a paper entitled "Some New Encyclopædists on Logic," in which I reviewed the recently published and translated first volume of a proposed *Encyclopædia of Philosophy*. Each contributor to that volume had attempted the outline of a logical system, or, at any rate, of a very comprehensive problem within an assumed system. And as the editorial preface seemed to invite the reader to find in the several pathways of discourse a convergence to unity, I reviewed them as possible contributions towards a special kind of unity and idea of Logic which was certainly outside that volume, and perhaps outside the currents and eddies of philosophic opinion altogether. This was the primitive idea of Logic: to know the way of "right notions," as a stage on the way of "ultimate blessedness"; a scheme for controlling knowledge as a factor in the vitality of our spiritual nature, through self-consciousness. British logicians were not represented in that volume, and I am glad to have been invited to review some currents of logical theory prevalent among ourselves, that are contributions to the same primitive enterprise of reflection. The occasion for such a review has been offered in the Symposium published in last year's Proceedings of this Society, on the Import of Propositions. That Symposium was perhaps the more representative of the real drifts of our own reflection, because, instead of collecting essays in logical system, it focussed on one definite problem the light which could be thrown from each of the three methods in Logic which are now most

prevalent ; a specially British fashion of resolving controversy. It is, perhaps, a hardship to the three chosen representatives of logical militancy, that on their high festival a vagrant should intrude to chat about the spoils and wounds of intellectual war, like the fop whom Hotspur flouted on the stricken field at Holmedon.

Midway between Aristotle's day and our own, the problem of Import was presented to the world by Avicenna in the following form :—

A proposition is the disclosure of a relation between two things, with truth or falsity.

Avicenna would seem to have been a humorist as well as a faithful expositor of Aristotle, had he foreseen that, after a thousand years of progressive reflection, we should still be discussing the same kind of formula ; and that one symposiast should be obsessed by the "relation," it is identity with difference ; another, with the "things," they are determinations of reality as a system ; and a third, by "truth or falsity," it is relative to personal experience. And I, seeing the argumentative entanglements, am mesmerised by the wonder of Avicenna's initial term. How comes such a sheer incident as "disclosure" into the eternal plan for a spiritual nature ? How is it *a priori* possible that anyone should disclose anything ? And will it require another thousand years before our logical technique shall have adapted itself to a curiosity so esoteric as that which poses the logical enquiries ?

A real Symposium, as literary form, is an improvement on the make-believe Symposium now too common even in our text-books for elementary instruction, in which there is a continual "for" and "against," but one man sustains the whole colloquy. Too often, like a quick-change artist, he passes between doctrine of "traditional logic" or of some unspecified (but not, as he tells us, unpaid) league of teachers, on the one hand, and his own free reason on the other ; but without giving

any opening for a test as to whether what he says *in propria persona* is on the same level of abstract intention as belonged originally to the doctrine he impersonates. He perhaps speaks persuasively on the level of psychological positivism against voices whose native reach is only on the level of normative aspiration, and there is no reply. In a real Symposium the pilgrim on the way of right notions may from time to time test whether his competitive instructors are within hail of each other. Fortunately also our present symposiasts, E. E. C. Jones, B. Bosanquet, and F. C. S. Schiller, have each explained their meanings in earlier and larger contexts; and at the first crucial bend in the way of right notions, the Import of Propositions, we can the more easily orientate with our own position the discrepancies of guidance which they offer.

Symposia on detailed questions of positive science familiarise us with a similar task, when they have not yet found the true genus of explanation, for example, Is grey a colour? Are eoliths of human workmanship? But our present problem makes us aware of still wider options of relevant assertion than the genera of positive science. Hamilton distinguished phenomenology, nomology, and ontology. We seem to hear as to Import, not only words from a definite positive science, Psychology, and from a normative science, the Morphology of Knowledge, but from some energy of expression that can hardly be called assertion at all, and is not art or poetry, and yet must be listened to.

Mr. Schiller does not pass beyond the natural sphere of scientific assertion when he tells us that standard propositions do not express any actual meaning, but only a potential meaning (pp. 385-6); that their function is not normative, but only a natural consequence of actual meaning (p. 395); that actual meanings entail processes of selection determined by the reaction of some individual human soul upon some situation in real life. Hence that the attempt to describe actual meanings in the fantastically artificial terms of a normative

logic is foredoomed to failure (p. 395); and all that can be general in the import of propositions is that they are relevant to some context (p. 422). Is there, then, no personal good of which impersonal truth is a condition; no way of right notions except the multitudinous tracks our idiosyncrasy of thought tends to follow; no import of propositions, except their unchartered suggestiveness to each individual as they are uttered? Thanks to the actuality of our own Symposium Mr. Bosanquet shows that the latter doubt is certainly misuse of even positive psychology. "We have inexhaustible stores of propositions in full use with the most complete and accurately known application and context, in literature, science and philosophy" (p. 415). So that a normative meaning in judgment, should this be possible, may be matched by a standard import of propositions. But can he rescue also the normative function itself from the iconoclasm of the psychologist who, according to Mr. Schiller *in propria persona*, "observes in actual thought the lapses of the personal thinker, and the influences of unconscious complexes and feelings" (p. 395), and only finds in propositions that they "apply to problems and are formulated by persons in pursuit of their purposes" (p. 419)?

The traditional logician whom Mr. Schiller is not, but impersonates, and whom he "charitably supposes never *intended* the traditional account to have any relation to actual meaning" (p. 395)—this imposing marionette certainly will not rescue it; indeed is not *intended* to do so.

Mr. Bosanquet seems to hope something from "Logic," if not from the traditional Logician. "The elaborate study of the actual effort to express meaning, and of its relative completion in the degrees of truth, which forms, at least in my intention, the whole argument of my work on *Logic* . . . is an attempt to criticise actual meaning in the light of the conditions of expression and the fundamental impulse of thought. . . . You must take account of actual meaning, but you must take account as well of such general needs as

completeness and self-consistency. And I know of no other sense in which actual meaning and truth are disregarded by Logic" (p. 383).

If thought can trust a fundamental impulse of its own, the pilgrim to blessedness need no longer wait for a pass signed by Psychology, or pause under psychological afterthoughts like that attributed to a shipwrecked sailor: "Save my soul if I have a soul!" Mr. Schiller, however, complains that Mr. Bosanquet not only, by refusing the psychology of the individual "depersonalises thought," but by aiming at the normative, with picturesque anthropomorphism of language, "personifies logical entities, allows 'universals' to contract matrimonial alliances, and attributes volitional 'efforts' to propositions" (p. 394); and that the hypothesis of a "fundamental impulse of thought" could hardly be formulated nowadays except in biological terms, as, say, a will to live or an *élan vital* (p. 396). And this criticism is so far discouraging to the plain man, that even in Mr. Bosanquet's more constructive method, the method not of actual symposium, nor of imaginary dialogue, but of methodical description of the ideal, the logical consciousness may not yet have found its adequate expression. Methodical description is the expression proper to knowledge of fact or of theories of fact; and we must not assume that it is a satisfactory expression for what is not knowledge, but only reflection on knowledge. Carlyle resorted occasionally to the imperative even for what is properly knowledge, "The infinite terror! Thou shalt believe in this!" The use of symbols, as begun by Aristotle, and applied by Miss Jones to our present problem, is a larger step than this towards similar things. For, symbols are at least capable of suggesting to us aspirations of thought, as well as empirical facts. But they are used sparingly by Mr. Bosanquet in his great undertaking, to describe our "efforts to express meaning." And the formula of Miss Jones's thesis in the present Symposium, that *S is P asserts Diversity of Intension in Identity of Denotation* (p. 359),

is not made more prepossessing, nor her use of Euler's circles for the scheme of Immediate and Mediate Inferences more convincing, through the absence of full verbal syntax. Symbolism may evade impeachments for either Anthropomorphism or Psychologic Positivism. But the evasion has its own trouble in it, which becomes almost an absolute bar when not only difference and identity, but such living energies as those she describes as "application" and "intension," are committed to the care of symbols by our modern logisticians. The symbols have no distinctive adaptation to that play of personality which is essential and relevant to genuine logic, in the act of knowledge. They suggest facts or at least recorded results of thought, rather than the aspirations of thought itself.

At the close of this paper I intend to revert to a primitive method of logical instruction adopted by the Hindoos, who have left us the earliest records. It consisted in the invention of technical terms and the definition and illustration of their meaning. I shall simply state what I mean by the term "Import of Propositions"; and though I shall meanwhile proceed to appreciate, as well as I can, the distinctive doctrines of our symposiasts, it is only in order to help myself to such conceptions as may be most useful in a definition. It is not that the method of definition solves the problem as to modes of expression. It merely, with the consciousness of its own primitiveness, postpones the graver task which reflective evolution must bring. It deprecates beforehand, though it cannot dissolve, the illusion created and from page to page sustained by the use either of the syntax or the symbolic equations appropriate to science; the illusion, namely, that logical doctrine is an addition to the sum of positive knowledge possessed by mankind. I am not bound to submit myself to such contradiction or disproof as would be a proper reaction on the part of persons to whom scientific knowledge is offered; what I offer is a branch not of knowledge, but of culture. It is not even an expression of cultured imagination, like Music or Poetry, but

of intellectual desire. The unfairest demand that can be made on logic is, that it should be "logical" in the popular sense in which sciences and other argumentative achievements are logical—that is to say, are demonstrable or evidentiary. What is a fair demand, is that it shall bring into consciousness the relation of any known fact to the aspirations of the knower, and shall be fit for that educative function. Logic may be described as a Liturgy of thought, rather than a science or an art of thinking; and a liturgical rubric—such as, say, the "general confession"—cannot be criticised as though it were an autobiography or magisterial investigation.

The latest volume of the *Encyclopædia of Religion and Ethics* contains a brief article on "Logic," in the course of which I have tried to indicate some tests by which we may detect the vein of unspoken energy within the inevitable grossness of syntactical, symbolic or demonstrative form, which is properly logical.

We may require of any doctrine which claims to be Logical that it shall be (1) reflective, as distinct from assertive, in its significance; (2) teleological or purposive in its principle; (3) *à priori* or independent in its authority; (4) theoretical rather than practical in its limitations; and (5) disciplinary, not objective, in its motive.

How far Logical doctrine can in its development carry on it the veneer of "picturesqueness" is comparatively an unimportant question. I presume that Mr. Schiller does not forbid this device, seeing the ferment of it which William James has introduced into Psychology, and the freedom of it which Mr. Schiller is able to indulge (I shall have occasion to quote a specimen presently) when making his psychological assertions. But anthropomorphism is a different matter. Doctrine that is psychological may be freely picturesque, because it is what might be called "introlative," expressing the things of the mind by reference to the things of the world; but doctrines

that are logical probably *must* also be anthropomorphic, because they constitute a reflective hesitancy, as it were, in that evolution of scientific thought which aims to transcend anthropomorphism. They must be thankful to receive no harsher criticism from the scientific or sub-scientific level than that they are near akin to the vitalism in biology.

But now, the normative Import of Propositions ! What has the devotee of right notions to do with Propositions ? Propositions are a social incident which he may or may not choose to endure. The recluse may be as earnest in the discipline of his thought, as the conversationalist or the lover of print. Our national wordmonger, Dr. Johnson, when making some impromptu verses about the absolute good, felt it more natural, indeed, to give his pretended judgment rather through a "hermit hoar, in solemn cell," than through some debater from Fleet Street.

It is scarcely enough that language is an instrument of thought, and that we must also use it if we are to describe thought. Nevertheless, Import is a bye-path on the way of right notions which must certainly be followed if we are to see where we are on this way itself. It is distinctively the Import of Propositions, and not the nature of Judgment, that must be now considered, though I hope to show that Import carries with it some corollaries as to the nature of Judgment. And if we are to argue at all about logical doctrine, instead of defining like the Hindoos or dogmatising like Carlyle, we must treat Import as a consequence from the nature of Judgment, such that logical intuition of the latter may be confirmed or reformed through its theory. A man may be a recluse if he so chooses, but his inward nature must be such that he can be social if he chooses. And Judgment we must suppose to be such that it can be communicated as we actually see it communicated. And Miss Jones has done us all at least the service of persuading Mr. Bosanquet to bring his impressive theory of Judgment, originating as it does on a deeper philosophical

ground, to the practical verification, How does it explain Import?

In using so ultra-metaphorical a conception as the Liturgy of thought, I intend only to escape during the logical pilgrimage, internment at the hands of an aggressive psychology or an oppressive metaphysic, as by some Giant Despair. In my previous paper before this Society, I. said—"Logic is the discipline of the faculty of knowledge for its teleological function in our complete nature . . . If we are to name the teleological principle of our spiritual life as a whole we must call it Conscience." Thus the way may be kept open, by a teleological scheme of our complete nature. The Liturgy of thought must adapt itself to the condition laid down by Mr. Schiller, that "the site in which meanings occur, the soil in which alone they are alive and actual, is always some human soul reacting and operating upon some vital situation" (p. 396). Instead of using this condition empirically, however, to "base our norms and 'ideals' on a patient study of actual processes," we must translate it normatively at the beginning, and simply restore to our Liturgy the ancient rubric of Motive. The reason why in my previous paper I could not accept the "Absolute Pragmatism" adopted by Royce, which should guarantee the norms of thought through "modes of action that conform to the same logical laws to which classes and propositions conform," was that a "calculus of modes of action" would seem to give complete priority to a rubric of "Rational Will"; while in primitive logic, rubrics of Intellectual Faculty and Cosmic Category take precedence. If we have rationality, it seems a certainty that we shall have will; but, were action to appear in the cosmos isolated, there seems no necessary cosmic occasion for the recovery of rationality. I asked, "Is there any allurement in Reason which persuades the Will to become rational, outside the inward need of our personality?" And from such an inward need, the ultimate creative life issues directly in intellect. So that were the calculus of modes

of action available, we could only use it to confirm and reassure the self-consciousness of thought, and to dissolve the mirages that from time to time may mislead our logical intuition. Following, then, the order of logical intuition, our liturgy must begin with the rubric of Faculty, and through Category and Doubt reach Motive, where the direct intervention of Humanism is invited. The logical consciousness must begin its development, that is to say, by an analysis of judgment, either direct or through the Import of Propositions. But though this is only a beginning, it must contain the potentiality and premonition of the subsequent rubrics. Mr. Bosanquet analyses that structure within Judgment, whereby it can hope to sustain the complete system of "our world," as Atlas might shoulder the heavens; Aristotle apparently sees in it the promise of a world to be conciliated rather than sustained, and one prior to any subjective interest. Such responsibility Judgment can disclaim, such negligence, reform.

The properly logical analysis of the faculty of Judgment is not psychological, nor metaphysical, but is a unique kind of reflection, a logical intuition; and any person who does not assent to the method is simply above or below the sphere of logical fellowship—a claim which is not more arrogant than similar claims by the moral philosophers. Butler, in his sermons on human nature, professes to do no more than explain what he means by saying that virtue is natural, if haply some hesitating reader may give assent to that way of speaking; and Sidgwick declares that if any person does not understand for himself the idea of "rightness" there is no way of conveying it. A disturbing incident, however, in the story of specifically logical intuition is that, while nearly all the logicians seem to accept implicitly, in some moment of intuition, the analysis of judgment into a purely existential unit and its characterisation, few have faith enough to hold it firmly against psychological explanation or metaphysical criticism. The "ultimate subject," as the Aristotelians named the unit,

instead of remaining content to be defined by logical intuition, becomes a "focus of attention" in the psychological act of knowledge, or a fragment of system in the summary of cosmic being. "The subject," says Mr. Bosanquet, "will always be Reality in one form, and the predicate reality in another form" (*Essentials of Logic*, p. 41).

Aristotle himself, proceeding to expound the rubric of the Categories, although defining them as kinds of predicate, yet, in discussing Substance and contrasting the second substance with the primary, identified this latter with the ultimate subject previously found in the faculty of judgment. And here the nemesis of weakness is that, if so, the ultimate subject which our Faculty accepts as an existential unit and nothing more appears metaphysically as infinitely rich in potential characteristics. The Faculty accepts it as uncharacterised, reality presents it as exhaustively characterised. Shall our logical intuition be thus discredited, and be treated as an irrelevant lapse into psychological observation, and perhaps be replaced by a metaphysical expansion of our objective; until this becomes the complete system of the world?

"I take it," says Mr. Bosanquet, "that in denotation there is intension, only the intension is auxiliary to identification, as in a proper name, and not regarded for its own sake" (p. 377). "I believe that every proposition possesses in principle the two sides of affirming a fact, and of laying down a law of universal connection. All the main types of proposition are produced, as it seems to me, by the struggle of these two tendencies, and the degrees in which either gets the upper hand or the two become harmoniously fused" (p. 302).

Then how does it come to pass that the slightest shifting of mere time or place, or the most impartial exchange of personal units within the express content of a subject that is to be characterised, can alter so profoundly the impending significance? Why should denotative intension be so peremptory as compared with predicative? The puritan of Mr. Bosanquet's story, when

in his argument with the latitudinarian he was told, "Your God is my devil," is not expected to merge his two subjects, but rather to differentiate at all costs his characterisations; while the Jewish king who, after the prophet's parable, was told "Thou art the man," must assimilate two different characterisations. If, as Mr. Bosanquet says, the formal copula in a proposition represents not sameness, but connection, not an existential unification, but that something "spells" something (p. 379), then how comes it that so slight a turn in a lettering produces such a vast change in a word? And why is this "auxiliary" function of intension so dominant that, without it, intension "for its own sake" would cease to exist?

Our intuition is saved mainly by the rubric which Aristotle and most subsequent logicians have neglected. For Motive implies that Judgment is an energy whose function is defined in Will. And in Will there can be no room for any outcome that is not finite and pluralistic. Each volition terminates on a point of objectivity; we may contemplate all time and existence; we can only originate some event, we can only change some substance, at some point in space and at some moment of time. The He or It may, if we please, be woven into a scheme of categories or a hierarchy of existential systems. But so far as this is done the logician has suspended his distinctive function, which is to express the preparation which judgment is making for its outcome in practical life. The strictly logical intuition of judgment is, that it characterises existential items with a view to distinctive emotional or manipulative reactions; and it can only carry forward its characterisations into the place and moment for ultimate reaction, if it has already isolated the members of existential plurality. On this level of theory, we are part way, though not all the way, to the general import of propositions commended to us by Miss E. E. C. Jones; namely, an identity of application, along with a diversity of intension, between two forms. We are not all the way, especially as Miss Jones claims to substitute at

will the word "denotation" for "application," and so accents a special and less personal significance. The problem of the import for propositions thus includes a further question, the answering of which introduces a new rubric; one latent indeed throughout the history of Logic, and colouring all the doctrine, but now needing a more definite and separate accentuation. It may be entitled "Interpretation."

The plain man who pursues the analysis of his faculty of judgment under the order of topics in the more methodical Aristotelian text-books, must be prepared for a shock of bewilderment and perhaps a permanent distrust, before he reaches the organisation of syllogistic forms, and as he passes through these to the exposition of scientific ideals, and finally of controversial methods. It is natural that logical intuition should distinguish in judgment the predicates which stand in antithesis to the ultimate subject, sometimes called attributives, from those which now appear as predicates, now undertake to "represent" ultimate subjects, and are expressed by our concrete nouns; and these again from those which seem to have outgrown their predicative function, and to pose as pure points in an artificial realm of predicative possibilities, and are expressed by our abstract nouns. And again, when we begin to trace the differentiation of our predicates as a premonition of scientific method, we recognise genus, species, and differentia, the forward-feeling tendrils, as it were, of aspiration, which Aristotle describes as predicables. All this is an analysis of predicates, and the ultimate subjects stand aside as having had their turn. And suddenly the ultimate subjects are dragged forward without any express warrant to distinguish property from accident. An "accident" is not a special kind of predicative idea in the light of scientific promise, but one which fails to reciprocate with its conceptual subject; to reciprocate, that is, the secondary function acquired by attributives, of "representing" a given area of ultimate subjects—their "suppositio." The "property" is "convertible" with the

subject, the "accident" is not. This sudden emphasis on limits of denotation in a theory of predicables reads a false significance into the ultimate subject as revealed in our intuition of faculty. There is measurement, as it were, of a defined range of accomplished perceptions, a resting on achievement rather than a freedom of aspiration. And the whole subsequent elaboration of rubrics is confused accordingly. Figures and Moods of Syllogism, Purely Enumerative Induction, are developments of denotation, and their significance is never clearly distinguished from the developments of predicative comprehension, such as scientific connection, apodeictic certainty and explanatory hypothesis. And the faithful student may too readily relieve his embarrassment by surrendering to the guidance of logicians who have from the beginning not accepted the pluralistic intuition, and have substituted for the contrast between existential unit and characterisation, the mere contrast within the organisation of intensive ideas between the concrete and the abstract. Syllogism is then an illusion of universality, Enumerative Induction is an arithmetic of psychological experiences; while conservative expositors of tradition, like Mr. Joseph, spend pages of laboured criticism in distinguishing between those symbolic forms of inference where denotation can be translated into real differences of intensive predication and those where they cannot. From such a bewilderment we may be rescued by our new rubric, one derived from a humanism which may be called socialistic, as distinguished from the individualism of James and Schiller, and which was possibly latent in Aristotle's mind when he postponed the tabulation of the predicables until his book on dialectics.

It is a gloss upon the text of our logical consciousness, I do not claim that it is part of the text itself, that the motive or premonition of practical relevancy in judgment is not to be realised within the cult of an individual soul, but must, in the course of its working out, unite in a main stream of spiritual tendency, a collective aspiration of mankind. Our reactions

on the pluralities of practical occasion are largely collective or co-operative reactions, and the power of judgment to discharge its task in our spiritual mechanism implies that it must select a plurality common to human judgment in general. The aspiration may be no less obvious to intuition than aspirations which imply less acquaintance with the empirical facts of life, for the social aims may be instinctive as well as the impulses of self-preservation. And the reinforcement of our pluralist intuition, a sustained emphasis on the faculty of isolating ultimate subjects in judgment, comes from the fact that all assimilation of the conceptual life of the individual to the conceptual standards of mankind in general must be reached through a previous identity in the existential references or assumptions on which predication depends, which are neither, to use Mr. Bosanquet's phraseology, "auxiliary to identification" of what is fact, nor intension "for its own sake"; or to use Aristotle's phraseology, are neither "in a subject" nor "predicable of a subject," but are sheer identities of subject. The origin of language is traced by Max Müller to our collective actions, such as the rhythm of oarsmen; and, so far as language to-day expresses common judgments, it must be because we have learned to think of the same things, rather than that we have learned to think the same things concerning them. If, therefore, we are to approach a logical consciousness, not only of how we think, but of the extent to which we share the thoughts of mankind, we must cling firmly to the application as distinct from the intension of our terms. We must be ready to transform a merely attributive predicate into the denotative word or phrase which prepares for formal conversion, *e.g.*, the adjective into the plural substantive, "Man is mortal, some mortals are men." That every judgment expresses an identity of application along with a diversity of intensive characterisation, if not the essential analysis of our faculty in solitude, is a true analysis of our faculty of co-operating in the thoughts

of mankind, and hence of the Import of Propositions. And when Mr. Bosanquet objects that intension may be or must be our guide to denotation, this only means that when through our social use of a denotation a standard intension has also been acquired, we can, as a matter of method, use this intension in bringing to pass new denotative harmonies as a prelude to new intensive themes.

A rubric of Interpretation must have implicitly governed Aristotle's dialectics, where he organised the methods proper when any accepted authority is to be held for, or urged against, interlocutors whose individual experience and foresight might raise a doubt. And like this practice seem to be all our internal questionings, if we would interact personally with mankind. We must reduce our personal thought and the common thought to denotative expressions as the ultimate specific for discrepancy. We must recognise that when by common consent man is mortal, the personal freak of noticing some mortals who are men, or that Alexander is mortal, is no departure from that august platitude, but is exactly the personal privilege of varied interpretation which must be exercised if the platitudinous harmony is to be realised. Identities of denotation amid varieties of connotation, denotative inter-subordinations such as arrange themselves into syllogistic figures and moods, may not economise the effective intelligence of a solitary, or bind into system the contents of formulated science. But they are the law by which our solitary impotence can hold by the strength of common consent, and by which each intellect may "do its bit" in sustaining the common formulation.

The social aspiration, reliance on symbols, and demonstration of syllogistic validities, diverge so widely from the analysis of actual science, even when this is conducted teleologically rather than psychologically, that we may well suggest that they should be constituted into a separate discipline. They are nearer in spirit than is the morphology of knowledge to the Kantian

theory of that "Kingdom of moral ends," where every will is a law-giver, yet no man's volition can run to the boundary. But since the way of right notions lies not merely through personal thinking, but, as Mr. Bosanquet happily describes it, through the inheritance of science and civilisation, we must rather anticipate the rubric of Interpretation as we do that of Motive, in our analysis of Judgment; and then, under this rubric itself, develop separately a scheme for the harmony of the personal and the common.

A proposition, I would then say, as a personal utterance, imports an appeal by one mind to another, to think of certain things or events, identifiable in the act of common perception, description or conception; to think of them as characterised in a definite way, and so inviting from human feeling or will a definite reaction. The intension which is offered in order to secure that many minds shall think of the same thing, may or may not be the same as that by which the things are to be characterised. Even the much maligned *S is S* may symbolise a proposition, provided the first *S* is used for identifying the things, and the second for characterising them, "What I have written, I have written." *S is P* symbolises an invitation to identify the things through one intension, and to characterise them by another.

A proposition as a standing formula for the harmony we aspire to in utterance, imports an identity of denotation along with a diversity of intension. It is a potentiality of acts of communion. It implies a sphere of things and events which a given perception, description or conception may serve to identify, and another breadth which the intensive predicate may serve to characterise. It is a goal at which all the talkers of all time must just fail to arrive. And its significance for logical consciousness is more in the content of personal import which it omits than in what it contains. The indefinite particular proposition, *Some S is P*, is a partial failure of different minds to think of the same things; and the undistributed predicate, *S is some at least*

of P, is a wilful ignorance of the full range of objects which we might possibly know can be characterised as P. The selection of ultimate subjects by the individual lies within a common potential range, while the common unification invited by the formal copula "is," lies within a range potential for the individual. Our aspirations for community must acknowledge eternal limits of definiteness against which our aspirations for truth, for perceptual multiplicity and conceptual depth, must always rebel. Mill's reproach against Immediate Inference, that it is a mere change of verbiage, and against Syllogism that it is a mere interpretation of memoranda, is pointless as against an aspiration which can only be realised through personal acts of expression and of appropriation of record. Thinkers who test their thoughts by formal rules, know at least what degree of communion is possible, and at what limits they must be content to allow the secrets of personal insight to remain for ever inviolate.

The interest in which I entered on this discussion was the conditions of "disclosure." "How is it *a priori* possible for anyone to disclose anything?" And the satisfaction suggested lies in the definition of Personal Import. To propose such a satisfaction perhaps involves the duty of tracing more fully the interplay between Personal Import and the Impersonal Import formulated by Miss Jones. For though not the *a priori* possibility of disclosure, this latter Import constitutes an axiom from which a methodology of disclosure may be demonstrated; and the methodology, with its equipollencies, syllogisms, and quasi-inductive summaries, is the ceremonial of seizin, as it were, with which the heritage of science and civilisation passes from hand to hand. But I must apply to the relating of the Personal to the Impersonal the words in which Miss Jones herself relates her own problem to that which Mr. Schiller thinks should be undertaken:—"No enunciative sentence is capable of setting forth all at once and unambiguously all the objective *sine quâ non* implications of Assertion" (p. 403). And

the many such sentences which would be required to relate Personal to Impersonal Import, I must at least postpone.

And theoretically I ought also to relate the *a priori* possibility of disclosure in general, to the propositional forms; forms "highly continuous, representing a constant effort to modify the meaning of sentences towards new burdens of expression"; or rather to what Mr. Bosanquet distinguishes in them as the "Existential, Categorical, Hypothetical, Relational, and other features of actual meanings" (pp. 380 and 418). The possibility of disclosure is to the "features of actual meanings," as these are to the propositional forms. Mr. Bosanquet remarks that the man who uses the forms "is not always the best judge as to what he himself means to say" (p. 381); and I would add that what he means to say is not always the complete fulfilment of, but only germinal for, the "universal conditions of expression" in saying it.

Possibly I ought, in conclusion, to relate my special problem to the theory of truth and falsity, as well as to that of "relations" and "things," and so complete the survey of Avicenna's formula. This would mean the stupendous enterprise of mediating between logical intuition, that is to say, the simple self-consciousness of the act of knowledge, and the more elaborate mode of reflection which I have contrasted with it as metaphysical. And I am glad to remember the assurance given by Mr. Schiller for the logical inquiry itself: "Is not our general analysis relative to a purpose and a standpoint, and may there not be a plurality of these?" (p. 420). What is most relevant to our present theme is, that metaphysical reflection on judgment, and especially on the existential and the predicative elements in it, seems to invert the analysis made in strictly logical reflection. The logical priority lies with the existential, the metaphysical with the predicative.

"Right or wrong," says Mr. Schiller, "we all predicate P of S including the logicians who choose to denounce the practice" (p. 387). And we must all still find S before we can predicate

P or any other determination for it. And the metaphysical inversion can only warn us that our selection from plurality must be continuously reformed under the test of progressive characterisation. "The same thing cannot act in contrary ways . . . and therefore whenever this contradiction occurs, we know that they are not the same but different." (Plato: *Republic*, Bk. IV, 436.)

ABSTRACT OF THE MINUTES OF THE PROCEEDINGS OF THE ARISTOTELIAN SOCIETY FOR THE THIRTY-SEVENTH SESSION.

November 1st, 1915. Dr. H. Wildon Carr, President, in the Chair.—The President delivered the inaugural address on "The Moment of Experience," and at the close invited debate. The discussion was opened by Dr. Nunn, who was followed by Dr. Silberstein, Mrs. Stephen, Mr. Worsley, Mr. Shelton, Mr. Joad, Miss Edgell, Prof. Hicks, Dr. Mitchell, Miss Oakeley, and Dr. Wolf. The President replied.

December 6th, 1915. Dr. H. Wildon Carr, President, in the Chair.—Lord Haldane introduced the discussion on his paper, entitled "Progress in Philosophical Research." The Chairman, Prof. Nunn, Prof. J. A. Smith, Prof. J. S. Mackenzie, Dr. J. S. Haldane, Mr. Lynch, Mrs. Stephen, Dr. Wolf, and Prof. Hicks took part in the discussion, and Lord Haldane replied.

December 20th, 1915. Dr. H. Wildon Carr, President, in the Chair.—Mr. J. W. Scott spoke on the subject of his paper "On the Common-sense Distinction of Appearance and Reality." A discussion followed, in which the following took part:—The Chairman, Dr. Chalmers Mitchell, Mr. Joad, Mr. Worsley, Prof. Hicks, Prof. Nunn, Dr. Wolf, and Miss Edgell. Mr. Scott replied to the criticisms that had been made.

January 3rd, 1916. Dr. H. Wildon Carr, President, in the Chair.—Prof. A. N. Whitehead read some explanatory notes on his paper entitled "Time, Space, and Relativity." A communication was also received from Sir Joseph Larmor, entitled "Relativity: A New Year Tale." The Chairman, Dr. Silberstein, Dr. Mitchell, Mr. Shelton, Mr. Worsley, and Prof. Hicks took part in the discussion, and Prof. Whitehead replied.

February 7th, 1916. Dr. H. Wildon Carr, President, in the Chair.—A paper was read by Miss Hilda D. Oakeley "On the Relation of the Theoretic to the Practical Activity." In the discussion, the Chairman, Prof. Hicks, Prof. Caldecott, Mr. Cock, Mr. Joad, Mr. Mead, Mr. Ginsberg, Prof. Nunn and others took part, and Miss Oakeley replied.

March 6th, 1916. Dr. H. Wildon Carr, President, in the Chair.—A paper was read by Prof. T. Percy Nunn on "Sense-Data and Physical Objects." The Chairman opened the discussion. He was followed by Mr. Lynch, Dr. Wolf, Mr. Joad, Mr. Dale, Mr. Worsley, Mr. Burns, Mr. Cock, Prof. Hicks, and Miss Oakeley. Prof. Nunn replied.

March 20th, 1916. Dr. H. Wildon Carr, President, in the Chair.—The Symposium papers on "The Implications of Recognition" were taken as read. The subject was introduced by Miss Edgell. She was followed by Mr. F. C. Bartlett, Dr. G. E. Moore, and the Chairman. The debate was continued by Prof. Hicks, Prof. Nunn, Mr. Lynch, Prof. Brough, and others. Miss Edgell replied.

April 10th, 1916. Dr. H. Wildon Carr, President, in the Chair.—A paper was read by Prof. A. E. Taylor on "Parmenides, Zeno, and Socrates." The discussion was opened by the Chairman, who was followed by Mr. Burns, Mr. Shelton, Mr. Worsley, Mr. Joad, Mr. Lynch, Prof. Hicks, Miss Oakeley, and Mr. Mead. Prof. Taylor replied.

June 5th, 1916. Dr. H. Wildon Carr, President, in the Chair.—A paper was read by Mr. E. H. Strange on "The Nature of Judgment." The discussion was opened by the Chairman, and the following took part:—Prof. Brough, Mr. Lynch, Mr. Joad, Prof. Hicks, and Mr. Burns. Mr. Strange replied.

July 3rd, 1916. Dr. H. Wildon Carr, President, in the Chair.—The Report of the Executive Committee for the thirty-seventh Session and the Treasurer's Financial Statement were read and adopted. The following nominations of Officers for the next Session were approved:—President, Dr. H. Wildon Carr; Honorary Treasurer, Prof. T. Percy Nunn; Honorary

Secretary, Prof. G. Dawes Hicks. Dr. Goldsbrough and Mr. Worsley were appointed Auditors. The following Members who had been duly nominated were elected to serve on the Executive Cemmittee:—Mr. C. Delisle Burns, Prof. A. Caldecott, Miss Beatrice Edgell, Miss H. D. Oakeley, Miss L. S. Stebbing, and Dr. A. Wolf. A paper was read by Prof. J. Brough, entitled "A Controversy on Import." The Chairman opened the discussion, in which Mr. Mead, Dr. Mitchell, Prof. Hicks, Mr. Joad, Miss Edgell, and others took part, and Prof. Brough replied.

ABSTRACT OF MINUTES OF THE JOINT SESSION OF
THE ARISTOTELIAN SOCIETY, THE OXFORD
PHILOSOPHICAL SOCIETY, AND THE MIND
ASSOCIATION.

May 15th, 1916. At Manchester College, Oxford.—A company of between thirty and forty members and guests dined together, after the meeting of the Mind Association (held at Corpus Christi College) in the afternoon. At the meeting which followed, Principal L. P. Jacks in the Chair, the Symposium papers on "The Nature of the State in its External Relations" were taken as read, and the subject was introduced by Mr. C. Delisle Burns and the Hon. Bertrand Russell. The Chairman opened the discussion. He was followed by Prof. J. A. Smith, Canon Rashdall, Mr. Joad, Mr. Thorburn, and others. Mr. Russell and Mr. Burns replied.

REPORT OF THE EXECUTIVE COMMITTEE FOR THE
THIRTY-SEVENTH SESSION, 1915—16.

The thirty-seventh Session of the Society was opened by an Address from the President, Dr. H. Wildon Carr, on November 1st, 1915. In addition, eight papers have been read, and two symposia have been held—one in London, and the other in conjunction with the Mind Association and the Oxford Philosophical Society at Manchester College, Oxford. The attendances both at the ordinary meetings and at the Oxford meeting have been large, and some extremely interesting discussions have taken place. The life of the Society has been well maintained, notwithstanding the unusual conditions created by the war.

Twelve new members have joined the Society, and there have been three withdrawals. The membership now consists of 138 ordinary, 5 honorary, and 7 corresponding members.

1. *Current Account (Joint Stock Bank).*

RECEIPTS.		EXPENDITURE.	
	£ s. d.		£ s. d.
Cash balance from last Session	89 19 11	Royal Asiatic Society, for use of rooms
Balance from Deposit and Investment Account	1 5 7	Harrison and Sons for printing—	£ s. d.
Members' subscriptions—		<i>Proceedings</i> , Vol. XV ..	117 13 0
Current Session ..	111 6 0	Proofs of Papers sent out, Notices of	
Arrears.. ..	18 18 0	Meetings, etc. ..	36 15 0
In advance	2 2 0		154 8 0
Sale of <i>Proceedings</i> (nett) to June 30th, 1915	132 6 0	Advertisements
Interest—	36 19 8	Income tax
On deposit in Joint Stock Bank ..	0 19 8	Gratuities
On deposit in Post Office Savings		Loss on Scotch cheques..
Bank	1 14 0	Treasurer's postage and stationery
On War Loan	5 12 5	Balance in hand—
	8 6 1		99 9 9
	<u>£268 17 3</u>		

2. *Deposit and Investment Account.*

	£ s. d.		£ s. d.
Deposit balances from last Session—		Invested in War Loan (4½ per cent.)—	£ s. d.
Post Office Savings Bank	45 8 11	Per Post Office Savings Bank (£45)	44 14 0
Joint Stock Bank	100 0 0	Per Joint Stock Bank (£100) ..	99 9 4
		Balance (transferred to Current Account)
	<u>£145 8 11</u>		144 3 4
			1 6 7
			<u>£145 8 11</u>

Examined and found correct, June 30, 1916.—

(Signed) T. PERCY NUNN, *Treasurer.*(Signed) GILES F. GOLDSBROUGH } *Auditors.*
A. WORSLEY

RULES OF THE ARISTOTELIAN SOCIETY.

NAME.

I.—This Society shall be called “THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY,” or, for a short title, “THE ARISTOTELIAN SOCIETY.”

OBJECTS.

II.—The object of this Society shall be the systematic study of Philosophy; 1st, as to its historic development; 2nd, as to its methods and problems.

CONSTITUTION.

III.—This Society shall consist of a President, Vice-Presidents, a Treasurer, a Secretary, and Members. Every Ex-President shall be a Vice-President. The business of the Society shall be managed by an Executive Committee consisting of the President, the Treasurer, the Secretary, and six members elected in accordance with Rule VIII.

SUBSCRIPTION.

IV.—The annual subscription shall be one guinea, due at the first meeting in each session.

ADMISSION OF MEMBERS.

V.—Any person desirous of becoming a member of the ARISTOTELIAN SOCIETY shall apply to the Secretary or other officer of the Society, who shall lay the application before the Executive Committee, and the Executive Committee, if they think fit, shall admit the candidate to membership.

CORRESPONDING MEMBERS.

VI.—Foreigners may be elected as corresponding members of the Society. They shall be nominated by the Executive Committee, and notice having been given at one ordinary meeting, their nomination shall be voted upon at the next meeting, when two-thirds of the votes cast shall be required for their election. Corresponding members shall not be liable to the annual subscription, and shall not vote.

ELECTION OF OFFICERS.

VII.—The Committee shall nominate the President, the Treasurer, and the Secretary for the ensuing session, and shall, at the Annual Meeting, submit the nominations for the approval of the Society.

ELECTION OF COMMITTEE.

VIII.—At the same meeting the six members to constitute with the officers the Executive Committee shall be elected by ballot. Nominations, which must be signed by two members of the Society, must reach the Secretary fourteen days before the meeting, and a balloting paper shall be sent to all members. Members may return their balloting papers by post before the meeting or hand them in at the meeting.

Should a vacancy occur at any other time, the Committee may co-opt a member to serve for the remainder of the Session.

SESSIONS AND MEETINGS.

IX.—The ordinary meetings of the Society shall be on the first Monday in every month from November to June, unless otherwise ordered by the Committee. Such a course shall constitute a session. Special meetings may be ordered by resolution of the Society or shall be called by the President whenever requested in writing by four or more members.

BUSINESS OF SESSIONS.

X.—At the last meeting in each session the Executive Committee shall report and the Treasurer shall make a financial statement, and present his accounts audited by two members appointed by the Society at a previous meeting.

BUSINESS OF MEETINGS.

XI.—Except at the first meeting in each session, when the President or a Vice-President shall deliver an address, the study of Philosophy in both departments shall be pursued by means of discussion, so that every member may take an active part in the work of the Society.

PROCEEDINGS.

XII.—The Executive Committee are entrusted with the care of publishing or providing for the publication of a selection of the papers read each session before the Society.

BUSINESS RESOLUTIONS.

XIII.—No resolution affecting the general conduct of the Society and not already provided for by Rule XV shall be put unless notice has been given and the resolution read at the previous meeting, and unless a quorum of five members be present.

VISITORS.

XIV.—Visitors may be introduced to the meetings by members.

AMENDMENTS.

XV.—Notices to amend these rules shall be in writing and must be signed by two members. Amendments must be announced at an ordinary meeting, and notice having been given to all the members, they shall be voted upon at the next ordinary meeting, when they shall not be carried unless two-thirds of the votes cast are in their favour.

LIST OF OFFICERS AND MEMBERS FOR THE THIRTY-EIGHTH SESSION, 1916-1917.

PRESIDENT.

H. WILDON CARR, D.Litt.

VICE-PRESIDENTS.

BERNARD BOSANQUET, M.A., LL.D., F.B.A. (President, 1894-1898).

G. F. STOUT, M.A., LL.D., F.B.A. (President, 1899-1904).

REV. CANON HASTINGS RASHDALL, M.A., D.C.L., F.B.A. (President, 1904-1907).

RIGHT HON. VISCOUNT HALDANE OF CLOAN, O.M., K.T., LL.D., F.R.S., F.B.A. (President, 1907-1908).

S. ALEXANDER, M.A., LL.D., F.B.A. (President, 1908-1911).

HON. BERTRAND RUSSELL, M.A., F.R.S. (President, 1911-1913).

G. DAWES HICKS, M.A., PH.D., LITT.D. (President, 1913-1914).

RIGHT HON. ARTHUR J. BALFOUR, M.P., LL.D., F.R.S. (President, 1914-1915).

TREASURER.

PROF. T. PERCY NUNN, M.A., D.Sc.

HONORARY SECRETARY.

PROF. G. DAWES HICKS, M.A., PH.D., LITT.D.

COMMITTEE.

MR. C. DELISLE BURNS.

DR. A. CALDECOTT.

MISS BEATRICE EDGELL.

MISS H. D. OAKELEY.

MISS L. S. STEBBING.

DR. A. WOLF.

HONORARY MEMBERS.

F. H. BRADLEY, M.A., LL.D., Merton College, Oxford.

Prof. W. R. DUNSTAN, M.A., LL.D., F.R.S., 38, Cranley Gardens, S.W.

Prof. Sir HENRY JONES, M.A., LL.D., Litt.D., F.B.A., The University, Glasgow.

Prof. A. SENIER, M.D., Ph.D., 28, Herbert Park, Donnybrook, Dublin.

Prof. JAMES WARD, M.A., LL.D., F.B.A., 6, Selwyn Gardens, Cambridge.

CORRESPONDING MEMBERS.

- Prof. J. MARK BALDWIN, c/o Harris Forbes & Co., 56, William Street, New York.
 Prof. HENRI BERGSON, 31, Rue d'Erlanger, Paris.
 Prof. J. M. CATTELL, Garrison, New York.
 M. H. DZIEWICKI, 11, Szcepańska, Cracow, Austria.
 Prof. JOSIAH ROYCE, Harvard University, Cambridge, Mass.
 Prof. E. B. TITCHENER, Cornell University, United States.
 Prof. WM. WUNDT, Leipzig.

MEMBERS.

Elected.

1885. Prof. S. ALEXANDER, M.A., LL.D., F.B.A., *Vice-President*, 24, Brunswick Road, Withington, Manchester.
 1915. DOUGLAS AINSLIE, B.A., Athenæum Club, S.W.
 1899. R. ARMSTRONG-JONES, M.D., Claybury, Woodford Bridge, Essex.
 1913. Rev. FRANCIS AVELING, D.D., Ph.D., University College, Gower Street, W.

 1908. Right Hon. ARTHUR J. BALFOUR, M.P., LL.D., F.R.S., *Vice-President*, 4, Carlton Gardens, Pall Mall, S.W.
 1908. SIDNEY BALL, M.A., St. John's College, Oxford.
 1912. Prof. SURENDRA NATH BARAL, M.A., 16, Incognito Gade, Christiania, Norway.
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